WILLIAM BRIERLEY

EDUCATION

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| --- | --- |
| 1986  1983 | Master of Arts (Mathematics)  McGill University  Bachelor of Mathematics (Pure Mathematics and Philosophy Joint Honours)  University of Waterloo |

PROFILE

Bill Brierley is a senior consultant specializing in enterprise architecture and enterprise security. He has over 25 years of progressive experience information technology and cyber security and over 15 years experience in enterprise architecture and enterprise solutions, and over 10 years experience in business architecture and business strategy primarily within the public sector context. This experience has been gained as both an employee of government and as a consultant to government. He is seen as a thought leader and as an individual who is capable of delivering solutions to the most challenging problems. He has demonstrated his ability to deal with multiple issues of high import and high visibility through projects such as the development of network security guidelines for the Government of Canada, Public Safety Interoperability, the Government of Canada’s IT Security Strategy, and secure channel renewal.

Bill Brierley is an entrepreneur by nature and has managed his own practice since 1993. In addition, working in partnership with TRM Technologies, he has established the IT security practice and established TRM as a leading supplier of IT security services in Ottawa. Mr. Brierley has a keen eye for the bottom line and knows how to build a practice to maximize profitability. Mr. Brierley is also an excellent manager of people, and takes pride and delight in seeing staff develop under his management.

Mr. Brierley has a deep understanding of the federal government. His time on an executive interchange with Treasury Board Secretariat developed this understanding from the theoretical to the practical. His years of working with the federal government has taught Mr. Brierley how to work within a highly structure environment, and as a leader in enterprise risk, he deeply understands the importance of policy and compliance.

He has worked collaboratively throughout his career and is able to work with senior professionals and executives to solve difficult problems. His clients, peers, and staff always express the highest confidence in Mr. Brierley’s leadership.

PROFESSIONAL HISTORY

Project 75

MindBridge Analytics January 2017-Present

Chief Information Security Officer (20Months)

MindBridge Analytics is a startup software company providing artificial intelligence based software as a service in support of the financial audit industry.

Bill Brierley was employed in the dual role of Chief Information Security Officer and Data Scientist.

In the role of the CISO he has a dual reporting to the CTO and the CEO and is responsible for:

* Developing and maintaining security policies and procedures
* Developing and maintain the security architecture
* Conducting risk assessment
* Coordinating the deployment of security controls
* Reviewing contracts for security compliance
* Acquiring SOC 2 certification for the organization
* Acquiring Government of Canada security clearances for the organization
* Assessing and establishing corporate compliance with the EU General Data Protection Regulations
* Investigating security incidents
* Presenting to the Board of Directors
* Developing the security awareness program and conducting security awareness campaigns
* Managing security for data centres located in Canada, and the EU and customers in five countries

In the role of data scientist, Bill is responsible for

* Design and development of software components
* Analysis of data analytics algorithms for effectiveness

Project 74

Shared Services Canada December 2015-August 2016

Architecture Centre of Excellence (8 Months)

Enterprise Architect

Enterprise architecture at SSC was reorganized at the start of fiscal 2015-16. The new organization distributes architecture resources into the services supported by a small core program that focuses on strategic enterprise-wide design and providing support to the architecture community. The Architecture Centre of Excellence is the program that supports the distributed architecture community.

**Deliverables and Work Products**

Target Business Architecture for the Architecture Centre of Excellence.

Roadmap for the Architecture Centre of Excellence

Terms of Reference for the Enterprise Strategies and Architecture Review Board

Work Plans for implementing

• Architecture Practice Knowledge Management function

• Architecture Tools and Templates Management function

• Architecture Performance Measurement function

• Architecture Governance Support function

Architect’s Guide to Service Strategy

**Activities**

**Management and Business Consulting**

**Leadership and Direction:** Bill Brierley was responsible for providing advice and guidance (mentoring) to the director responsible for the ACoE and the ACoE team and her staff of 8 .

Developing and delivering presentation materials to Directorate management (Director General and Directors)

**Engagement and Communications:** Bill Brierley was responsible for communications and engagement planning for the architecture practice knowledge management function.

**Architecture and Design**

**Target Architecture Design and Development:** In collaboration with the ACoE team, Bill Brierley was responsible for developing the target architecture for the ACoE Program

**Opportunities, Solutions, and Road Mapping:** In collaboration with the ACoE team Bill Brierley was responsible for the development of the roadmap and implementation plans for the ACoE.

**Architecture Governance:** Bill Brierley was responsible for the development of the terms of reference for the Enterprise Strategies and Architecture Review Board (the executive committee functioning as an architecture review board).

Bill Brierley was also responsible for the initial design and planning of the operational support to the governance process

**Architecture Program Management and Capability Development:** Bill Brierley was responsible for the creation of guidance material on architecture processes and the application of architecture frameworks at SSC

**Skills, Knowledge and Technologies Applied**

This engagement required the application the following skills, knowledge and technologies:

* TOGAF® 9.1
* Service Management Frameworks (ITIL v3, IT4IT, COBIT, ValIT)

Project 73

Public Health Agency June 2015-September 2016

Data Management Initiative (Count 7 Months, Overlap with Project 74)

Enterprise Architect

The Public Health Agency Data Management Initiative was launched in response to Objective 3 of the Agency’s Strategic Plan for Public Health Surveillance (2013-2016) to create a corporate model for data management and technology.

The initiative has four major deliverables:

• Data Management Framework,

• Data Acquisition Strategy,

• Technical Infrastructure Report, and

• Roadmap

Deliverables and Work Products

**Technical Infrastructure Report**

Bill Brierley was responsible for the development of the Technical Infrastructure Report.

The Technical Infrastructure Report is an architecture description and architecture requirements document that describes the current state (baseline), target architecture, gap analysis, preliminary roadmap candidates, and architecture requirements technology infrastructure needed to support the future of public health data management and data analysis at the Public Health Agency of Canada.

**Data Management Framework**

Bill Brierley contributed to the development of the Data Management Framework.

The Data Management Framework presents a business architecture for public health data management at the Public Health Agency of Canada.

**Roadmap**

Bill Brierley contributed significantly to the development of the Roadmap deliverable.

The Roadmap deliverable provides a strategic roadmap identifying initiatives and providing business cases and costings for the initiatives.

**Implementation Plans**

The roadmap is based on an evolutionary approach to implementation. Transformation activities are to be aligned with the renewal cycles for systems and infrastructure. In support of this, Bill Brierley developed generic implementation plans and costings to facilitate the initiation of concrete implementation projects.

**Workshop Facilitation Package**

Bill Brierley produced the workshop facilitation package for the technical infrastructure requirements workshop. The workshop was a one-day workshop with program and technology staff from across the Agency. The workshop package included:

• Workshop Agenda,

• Workshop Scenario and Facilitator’s Guide,

• Workshop Materials, and

• Workshop Results.

**Technical Briefings**

Bill Brierley produced a number of technical briefings in support of the data management initiative. These include

• Managing Statistical Data: Best Practices and Reference Models

• Introduction to Big Data and Big Data Technologies

• Web of Data and Supporting Technologies

• Open Government and Open Data

• Implications and Strategies to Address Security Requirements in Data Sharing Agreements

**Governance Briefing Material**

Bill Brierley prepared the presentation and briefing material for the initiative manager for the Science IT (SIT) committee (An architecture review board) . SIT is a Tier 3 governance committee with membership consisting of directors representing science programs and the information technology community at PHAC. Material was prepared on three occasions:

• November 2015 Technology Architecture Vision

• March 2015 Tabling Draft Technical Infrastructure Report for Formal review

• June 2015 Approval of Technical Infrastructure Report.

Activities

**Management and Business Consulting**

**Leadership and Direction**

Bill Brierley provided advice and guidance (mentoring) to the initiative team (core team of 6 broader team of 30 plus) on program and project management, technology trends, data management and data analytics trends (including big data), and trends in public health data management.

**Engagement and Communication**

**Workshop Planning and Facilitation**: Bill Brierley was fully responsible for planning and facilitating an Agency-wide workshop to identify requirements for the technical infrastructure report.

**Communications and Engagement Planning:** Bill Brierley provided advice and guidance to the initiative team on managing communication and stakeholder engagement

**Briefings and Meetings:** Bill Brierley attended and led multiple meetings at the executive level (Director and Director General) on behalf of and in support of the initiative manager.

**Architecture and Design**

**Architecture Vision and Engagement Planning**

Bill Brierley developed the architecture vision and the architecture works plan (statement of architecture work). This activity included

• identifying the business problem, business drivers and business influencers (environment scan);

• stakeholder engagement and development of stakeholder map;

• identifying and analyzing options and presenting these to management to select a direction ; and

• development of a solution concept.

T**arget Architecture Design and Development**

Working with the lead for the data management framework, Bill Brierley developed the business current and target business architecture for public health data management. The result was documented in the Technical Infrastructure report as the Business Context and fully documented in the Data Management Framework deliverable.

Bill Brierley was solely responsible for

• documenting the current state and target information systems and technology architectures for public health data management;

• performing and documenting the gap analysis;

• identifying and analyzing options for addressing the gaps and presenting these to management ; and

• identifying and documenting roadmap candidates.

**Opportunities, Solutions, and Road Mapping**

Bill Brierley provided leadership and contributed to the development of the roadmap deliverable by

• identifying, documenting, and costing road map initiatives;

• identifying and analyzing solution and transition architecture options for addressing the gaps and presenting these to management

• documenting selected solutions and transition architectures;

• developing implementation plans.

**Architecture Governance**

Bill Brierley worked with the initiative manager to prepare for an present to the tier 3 governance committee on three occasions.

Bill Brierley supported the initiative manager in preparing for project governance submissions

**Security and Risk Management**

Bill Brierley assessed the risks and implications related to the security requirements in the data sharing agreements.

**Skills, Knowledge and Technologies Applied**

This engagement required the application the following skills, knowledge and technologies:

• TOGAF® 9.1

• open government and open data policy and implications

• W3C Web of Data Technologies and Standards including XML, RDF, OWL, and SPARQL

• Generic Statistical Information Model and Generic Statistics Process Model

• Government of Canada and Shared Service Canada IT policy and strategy

• Statistical application software and programming environments (SAS, Stata, SPSS, R)

• Big data technologies (e.g. Hadoop, Map Reduce)

• Cloud service architectures

• Service oriented architectures

• Relational and non-relational database technologies.

Project 72

Large US Health Care Insurance Company February 2015-April 2015

Claims Processing Current State Assessment (3 Months)

Enterprise Architect

Our client is preparing for a major transformation of their claims processing environment. Bill Brierley was engaged to guide the team on the approach and methodology.

Project 71

Municipal Transportation Utility September 2014-March 2015

EA Framework Development and Tool Deployment (6 Months)

Project Manager

This was a fixed price engagement to implement a customized enterprise architecture framework using Avolution’s ABACUS tool set.

The project consisted of three phases:

* Initiation, Discovery, and Planning – during this phase high- level business requirements were established
* Analysis and Design – this phase established the information (i.e., the architecture meta model and content framework), application, and technology architecture for the EA toolset.
* Implementation – during this phase, the ABACUS tool set was installed in an enterprise configuration, and the tool set was configured to support the specifications derived in the Analysis and Design Phase. This phase also included user training for client staff.

Deliverables and Work Products

Project Plan

Bill Brierley was responsible for completion of the project plan including engagement strategy, work structure, and schedule.

Technical Architecture Design

Bill Brierley was responsible for the development of the technical architecture design. This included the documentation of business requirements, the definition of the architecture meta-model, the specification of required viewpoints and reports, documenting the application architecture, and the technical infrastructure requirements for the tool set.

Fully Functioning and Tested Application

Bill Brierley managed a team of three developers to implement and test the requirements.

Activities

Management and Business Consulting

Team Management

Bill Brierley was the Conexiam project manager managing a team of 5 individuals and coordinating with the client project manager.

Risk Management

Bill Brierley was responsible for managing project risks including budget, schedule, and quality risks.

Engagement and Communications

Bill Brierley facilitated customer workshops in the analysis and design phase.

Architecture and Design. Workshop participants included both senior working level and executive managers

Architecture Vision and Engagement Planning

Bill Brierley was responsible for proposal development. The architecture vision and engagement planning was initiated at this stage and completed during the Initiation, Discovery and Planning Phase

Requirements Capture and Analysis

Bill Brierley oversaw the capture and analysis of the requirements including the identification and analysis of options.

Architecture Design and Development

As the lead architect, Bill Brierley provided hands on guidance in the design and development of the solution architecture including:

• Describing the baseline architecture (i.e., the current state of architecture practice at the client);

• Defining the target architecture; and

• Performing a Gap Analysis and mapping this into requirements for implementation

Opportunities, Solutions, and Road Mapping

Bill Brierley was responsible for the development of the solution architecture. In addition, a significant part of the client’s practice included:

• Opportunity assessment, and

• Development of Architecture Roadmaps.

During the analysis and design phase and again during the implementation phase, Bill worked extensively with the client to formalize these practices and enable them in the tool set.

Development and Implementation

Bill Brierley managed a team of three developers to implement and test the requirements.

Development included configuration using native tools in ABACUS and the creation of Visual Basic scripts for custom analyses.

The development approach was based on the Agile methodology, modified to address logistical issues. The core development team was distributed and remote meeting facilities with the client were limited.

Architecture Program Management and Capability Development

Although, capability development was not a core deliverable of this engagement, successful implementation required significant work with the client to prepare them to use the tool set effectively

Skills, Knowledge and Technologies Applied

This engagement required the application the following skills, knowledge and technologies:

* Methodology: TOGAF® 9.1
* UML
* BPMN
* PMBoK
* Architecture Processes
  + Baseline Architecture Description
  + Gap Analysis
  + Target Architecture Design and Description
  + Solution Design and Specification
  + Road Mapping and Implementation Planning
* Enterprise Architecture Tools – ABACUS
* Visual Basic
* SQL Report Builder

Project 70

Canada Revenue Agency June 2013- July 2013

Functional Review of Security and Internal Affairs Directorate (1 Months)

Facilitator

Bill Brierley was engaged to develop and lead workshops with the Security and Internal Affairs Directorate with the goal of establishing an action plan in response to the Functional Review

Project 69

CIRA April 2013 – June 2013

EA Capability Assessment (1 Months) Overlap

Enterprise Architect

Bill Brierley was engaged to conduct an assessment of the enterprise architecture capability at CIRA

Project 68

Canada Border Services Agency Apr 2009-Dec 2014

Business Architecture Capability Development (69 months)

Lead Enterprise Architect

Bill Brierley was engaged to lead a team of consultants to support the development of a comprehensive business architecture for Canada Border Services Agency (CBSA) and also establish an ongoing capability to maintain this asset.

The CBSA provides integrated border services that support national security priorities and facilitate the flow of people and goods across the border.

The CBSA is an integral part of the Public Safety Portfolio, which is responsible for integrated national security, emergency management, law enforcement, corrections, crime prevention and border management operations. Specific responsibilities of the CBSA include the following:

* administering legislation that governs the admissibility of people and goods into and out of Canada;
* identifying, detaining, and removing people who are inadmissible to Canada;
* interdicting illegal goods at Canada’s border;
* protecting food safety, plant and animal health, and Canada’s resource base;
* administering trade legislation and agreements, including the enforcement of trade remedies that protect Canadian industry;
* administering a fair and impartial redress mechanism; and
* collecting duties and taxes on imported goods.

Activities included:

* Establishing a business architecture centre of expertise;
* Defining the business architecture framework and standards
* Performing options of analyses and relating these to Agency mandate and priorities;
* Advising other architecture domains on the application of the CBSA business architecture including working with the team creating the Application Portfolio Inventory in CA Clarity.
* Working with strategic policy and planning, performance measurement and evaluation, IT portfolio management information management, and comptrollership to ensure integration of enterprise architecture with these core management practices enterprise architecture
* Reviewing architecture work products for alignment to the CBSA mandate and priorities
* Providing advice to various initiatives and developing architecture work products in support of these initiatives.
* Throughout this engagement, both baseline first approach (detailed documentation of current state architecture to identify problem areas or gaps and create a target architecture to address the problems) and target first approach (develop a target architecture and then document the current state to the extent required to conduct a gap analysis and develop a roadmap) were used. For example, the Agency Business Model documents the current (as planned) architecture. When this is used for strategic planning and business transformation projects it acts as a current state architecture; it provides a baseline that can be analyzed to identify where change is requires. When used by IT projects, it acts as a target architecture business architecture for the IT project. Within the context of individual IT projects, the Agency Business Model is extended to address missing detail concerning business processes. Because individual business processes are often supported or influenced by multiple IT services, business architecture artefacts are treated as enterprise assets.
* Facilitate meetings with key staff assigned to this effort in order to define, test, and agree upon information collection, modeling and analytical approaches;
* Facilitate meetings with stakeholders within CBSA;
* Participate in the planning, design, and conduct of meetings with external stakeholders;
* Provide mentoring and ad hoc training to the working group members ;
* Supporting the Manager Business Architecture and Director, Project Architecture in taking the various projects listed below through governance processes (formal architecture review boards above the technical architecture level had yet to be established – strategic architecture issues were addressed through other committees within the Agency)
* Provide other advice on enterprise business architecture as required;
* Used TOGAF to define the business strategy, governance, organization, and key business processes.
* Over the course of this engagement, Bill Brierley provided strategic and tactical advice to the Director Project Architecture, Director General Enterprise Architecture, and Director General Policy and Plans. The advice included organizational design options for enterprise architecture programs, advice on the Treasury Board submission process, advice on program and project management, and tactical advice on dealing with specific challenges.
* Throughout this engagement, Bill Brierley’s principal function was to guide the development of the business architecture at CBSA. This included the design and development of business architecture models as well as facilitating their development. Business models developed included enterprise-wide target group and needs models, Business alignment models, business use case models, logistics models of operations, service integration and accountability models, and event models.
* Throughout this engagement, Bill Brierley’s principal function was to guide the development of the business architecture at CBSA. This included facilitating project teams to develop project specific target business architectures (see sub projects) and facilitating the development of enterprise-wide architectures.
* The primary goal of this engagement was the establishment of a sustainable business architecture capability at CBSA that would enable the Agency to take a business focused approach to strategic decision making. At the end of this engagement, CBSA has a world leading business architecture capability.
* The architecture framework employed on this project is TOGAF 9.1 and GSRM

This engagement was a multi-year effort with multiple activities. These activities are described below as a series of sub-projects.

Project 68.1

Agency Business Model Apr 2009-Dec 2014

(17 months)

The Agency Business Model project established the business architecture capability at CBSA. The business architecture capability was developed through the creation of an integrated enterprise-wide business architecture. Business architecture guidance was developed in support of ongoing projects at CBSA and through the creation of the enterprise-wide business model.

The initial phase of this project delivered a service architecture for CBSA. This service architecture was the result of extensive consultations with subject matter experts between November 2008 and June 2009. The service architecture was published as an internal report at the end of June 2009. This service architecture subsequently informed the functional reorganization and the development of the 2010-11 Program Alignment Architecture.

The second phase focused on documenting a framework and processes do that the knowledge resulting from phase 1 could be captured in a repository, maintained and extended with knowledge captured through support to projects and initiatives at CBSA. This phase completed with the publication of the ABM v2.0 as an internal website.

The third phase of this project integrated lessons learned, new content gleaned from business architecture activities and usability analysis of the ABM 2.0 website to produce ABM 3.0.

**Deliverables and Work Products**

**Agency Business Model 1.0**. An agency-wide business architecture that included

* A target group and target group needs catalogue for the Agency.
* A service catalogue for the Agency
* Service dependency diagram (SIAM – Service Integration and Accountability Model as defined by the Business Transformation Enablement Program)
* Program and Service Alignment Model (PSAM – a mapping of the service catalogue to the target group needs catalogue)

**Business Architecture Program Design**. An enterprise architecture description document describing the target architecture for the business architecture program at CBSA that included

* A target group and needs catalogue for the business architecture program.
* A program and service catalogue for the business architecture program
* Service dependency diagram (SIAM)
* Program Service Alignment Model(s)
* Program Logic Model (identifying the theory of value creation for the program)
* Organizational Design Options

**Agency Business Model Framework 1.0.** The Agency Business Model Framework is a three-volume guide describing the structure of the repository and modelling notation and practice.

**Agency Business Model Repository**. The Agency Business Model Repository is the implementation of Agency Business Model Framework in an Enterprise Architecture toolset (Qualiware).

**Agency Business Model 2.0.** The Agency Business Model 2.0 is a web based publication. It extended the content in the Agency Business Model 1.0 with the results of detailed program assessment and the detailed program alignment architecture. The EA tool set was configured to publish the website from the repository.

**Agency Business Architecture Framework 2.0.** A revision of the framework to reflect lessons learned in the creation of ABM 2.0 and work with Agency projects.

**Agency Business Model 3.0.** This edition was published with a new look and feel and included updates to the program alignment architecture and capability models and other information from project work

**Agency Business Architecture Framework 3.0**. A revision of the framework to reflect lessons learned in the creation of ABM 3.0 and work with Agency projects.

**Architecture Practice Guidance.** Several templates, white papers and presentations to provide guidance to the enterprise architecture community including.

**Presentations and Briefings.** Multiple presentations and briefings to support the manager, director and director general.

**Activities**

**Management and Business Consulting**

**Leadership and Direction**

Bill Brierley provided architecture leadership and mentoring to the enterprise architecture community and managers and directors responsible for the business architecture capability .

Bill Brierley worked closely with the Enterprise Architecture Strategies Group to implement CBSA’s Application Portfolio Management reporting using CA Clarity

**Engagement and Communications**

Bill Brierley provided facilitation support and mentoring to the CBSA team doing the initial cross-agency consultations on the Agency Business Model.

In addition, Bill Brierley facilitated numerous meetings and working sessions with stakeholders from across the Agency in support of the Agency Business Model.

**Architecture and Design**

**Architecture Vision and Engagement Planning**

Bill Brierley supported the responsible manager in the development of the vision and work plan for each release of the Agency Business Model. This involved identification and analysis of options, socializing and presenting the options to senior management, and gaining commitment for the direction

**Target Architecture Design and Development**

Bill Brierley developed the target architecture for the business architecture program / capability This included:

* Identification and analysis of design options, socializing and presenting the options to relevant management, and gaining commitment to the selected approach;
* The development of a service oriented business architecture for the Business Architecture Capability;
* The development of the information / data architecture for the business architecture capability in the form of the architecture content framework and ensuring alignment between the business architecture content and Agency information management practices; and
* The development of the application architecture for the business architecture capability in the form of the modelling, repository management, and publishing toolset

**Architecture Governance**

Bill Brierley supported the responsible manager to take each release of the Agency Business Model through the Agency governance processes . This included briefings to the responsible directors, director generals, and associate deputy ministers.

**Architecture Program Management and Capability Development**

Bill Brierley worked closely with the responsible managers to develop the business architecture team, implement tools and process, and secure funding and support for the program

**Skills, Knowledge and Technologies Applied**

This engagement required the application the following skills, knowledge and technologies:

* TOGAF® 9.1
* Government of Canada Business Transformation Enablement Program and Government Strategic Reference Model (GSRM)
* Service Oriented Architecture
* Government of Canada management practices including:
  + Program Alignment Architecture,
  + Management Accountability Framework
  + Treasury Board Submission Process
* Application Portfolio Management and CA Clarity

Project 68.2

Program Alignment Architecture Oct 2009-Mar 2010

(3 months)

The Agency Business Model Team performed an architecture assessment of the proposed 2010-11 program alignment architecture.

This activity was initiated in October 2009 and involved intense effort over 2 periods (initial work and reporting) to establish and document the assessment process and prepare preliminary analysis.

**Deliverables and Work Products**

**Assessment of the 2010-11 Program Alignment Architecture.**

**White Paper on Public Policy Focused Target Group Needs Analysis**: This while paper provided the methodology for assessing the Program Alignment Architecture.

**Activities**

**Architecture and Design**

The assessment of the program alignment architecture involved the creation of the following architecture artifacts:

* Function decomposition diagram
* Logic model
* Target group needs diagram (i.e., stakeholders and stakeholder demand network))

Creation of these artefacts involved identification and analysis of options, socializing and presenting the options to senior management, and gaining commitment for the direction

**Architecture Governance**

This project directly supported the Agency governance and planning processes.

**Architecture Program Management and Capability Development**

Developed and documented a methodology for analysing the strategic context.

**Skills, Knowledge and Technologies Applied**

This engagement required the application the following skills, knowledge and technologies:

* TOGAF® 9.1
* Government of Canada Business Transformation Enablement Program
* Policy on Management Resources and Results Structure:

**Project #68.3  
Border Risk Assessment Architecture  
Start/End: June 2013 to December 2013  
Duration: 7 months (LOE 3 months)  
# of team members: 10**  
Bill Brierley provided architecture leadership in the development of a capability-based architecture for border risk assessment. Activities included:

* Reviewing existing documentation and architecture work products;
* Facilitating engagement with key stakeholders;
* Identification and analysis of options, socializing and presenting the options to senior management, and gaining commitment for the direction
* Mentoring the team on methodology and approaches ;
* Leading the development of the architecture deliverables;
* Supporting the management team through architecture and project governance processes including architecture review board equivalents .
* Used TOGAF to define the business strategy, governance, organization, and key business processes
* The architecture framework employed on this project is TOGAF 9.1 and GSRM

**Project #68.4  
Advice to Manager Business Architecture and Director, Project Architecture**

**Start/End: May 2009 to December 2014**

**Duration: 68 months (LOE 17 months)**

**# of team members: 1**

Bill Brierley provided advice and support to the Director, Project Architecture on various issues including: **M3**

* Preparing presentation material in support of architecture, program, and project governance processes;
* Identification and analysis of options
* Advising on the implementation of the enterprise architecture program; and
* Supporting the Director in the development of performance management and program priorities.
* Supporting the Director in preparing materials for architecture reviews
* Used TOGAF to define the business strategy, governance, organization, and key business processes
* The architecture framework employed on this project is TOGAF 9.1 and GSRM

**Project #68.5  
CBSA Assessment and Revenue Management (CARM)**

**Start/End: February 2011 to Dec 2012**

**Duration: 23 months (LoE 12 months)**

**Project Value: 350,000,000**

**# of team members: 20 (approximately)**

Bill Brierley provided support to the responsible architecture manager including:

* Adapting methodologies to align architecture practice with enterprise resource planning deployment approaches (CARM uses SAP as its foundation technology platform);
* Developing the architecture work plans;
* Supporting (mentoring) the architecture team ;
* Supporting the responsible manager through architecture, project, and program governance processes .
* Used TOGAF to define the business strategy, governance, organization, and key business processes
* The architecture framework employed on this project is TOGAF 9.1 and GSRM

**Project #68.6  
e-Manifest**

**Start/End: April 2010 to Dec 2010**

**Duration: 9 months (LOE 4 months)**

**Project Value: $500,000,000**

**# of team members: 50 (approximately)**

eManifest is a multi-year $500 million initiative to automate the collection and processing of import-export documentation. The business architecture group established in project CBSA 01 describe above, was engage to improve the requirements management processes and integrate eManifest with marine risk assessment and reporting.

Bill Brierley provided support to the responsible architecture manager including: **M3**

* Adapting methodologies to align architecture practice with enterprise resource planning deployment approaches (CARM uses SAP as its foundation technology platform);
* Developing the architecture work plans;
* Identification and analysis of options, socializing and presenting the options to senior management, and gaining commitment for the direction
* Supporting (mentoring) the architecture team ;
* Supporting the responsible manager through architecture, project, and program governance processes .
* Used TOGAF to define the business strategy, governance, organization, and key business processes
* The architecture framework employed on this project is TOGAF 9.1 and GSRM

Project 67

Treasury Board Secretariat, Chief Information Officer Branch Dec 2009-Feb 2010

Authentication Service Business Requirements (1 months)

Security Architect

Bill Brierley was engaged to identify and analyze business requirements for authentication requirements for Government of Canada departments and agencies. The goal of this engagement is to determine the range of authentication services that are needed to meet Government of Canada needs.

Project 66

Treasury Board Secretariat, Chief Information Officer Branch Nov 2009-Dec 2009

Information Assurance Standard (1 months)

Security Architect

Bill Brierley was engaged to provide expert advice on the development of an Information Assurance Standard for the Government of Canada

Project 65

Treasury Board Secretariat, Chief Information Officer Branch Jul 2009-Oct 2009

Statement of Requirements for a Government of Canada Credential Provider (4 months)

Enterprise Architect

Bill Brierley was engaged to lead the development of a Statement of Requirements for a Credential Provider that will form part of the Request for Proposals.

The task included the following activities:

1. Attend meetings and workshops, to document additional requirements.

2. Analyze already gathered requirements including identification and analysis of options, socializing and presenting the options to senior management, and gaining commitment for the direction .

3. Develop of the Statement of Requirements for a Credential Provider.

4. Contribute to / produce presentation materials related to the above.

Project 64

Government Agency Feb 2009-Apr 2009

Security Architecture (1 months)

Security Architect

Bill Brierley provided enterprise architecture support oversight and process coaching support in the development of an Enterprise Security Architecture for a government agency.

Project 63

Treasury Board Secretariat, Chief Information Officer Branch Feb 2009-Mar 2009

Shared Access Card Feasibility Study (1 months)

Security Architect

Bill Brierley acted as the lead investigator to develop a feasibility study on a shared access card. The study demonstrates the capability and feasibility of leveraging existing access technologies to create a standards-based, interoperable shared access card for physical access to select Government of Canada facilities in the National Capital Region.

Project 62

Treasury Board Secretariat Jun 2008-Mar 2009

Corporate Administrative Shared Services (Count 9 months)

Enterprise Architect

Bill Brierley acted as the lead enterprise architect for the Corporate Administrative Shared Services Program. The Corporate Administrative Shared Services program is responsible for the development and implementation of shared services for Human Resources, Finance, and Materiel Management.

Bill Brierley’s responsibilities included:

* Developing the work plans for enterprise and solution architecture activities;
* Developing business architectures including identifying and analyzing services;
* Identification and analysis of options, socializing and presenting the options to senior management, and gaining commitment for the direction
* Advising on the use of service oriented architecture as a tool for integrating CASS with other corporate and departmental applications;
* Developing an initial draft of the CASS reference architecture models;
* Facilitating the Architecture Working Group; and
* Identifying strategies and procedures for managing HR metadata.
* Briefing the Project Director, Director General and Assistant Deputy Minister on strategies and options

Project 61

Public Service Commission Jun 2008-Nov 2008

IT Security Strategy (1 months) Overlap

Enterprise Architect

Bill Brierley was engaged to develop a strategy for maturing the IT Security program within the Public Service Commission.

Bill Brierley’s responsibilities included:

* Meeting with IT Security Coordinator and other senior members of the IT Services Division to identify requirements;
* Briefing the CIO and executive committees within PSC; and
* Preparing a report outlining the strategy.

Project 60

Treasury Board Secretariat Mar 2008-Apr 2008

MAF Portal Threat and Risk Assessment (1 months)

Security TRA Specialist

The MAF Portal Application is a web-based application developed by Strategic Policy (in Corporate Priorities, Planning and Policy Renewal Sector) with the help of the Corporate Communications Web Development Team. The application (MAF Portal):

* allows participating GC Departments and Agencies to upload required documentation. This information is then used by TB analysts to assess the state of management in the department/agency.
* allows departments/agencies to send/receive messages to/from the TB analysts.
* displays draft versions of MAF assessments (assessment/simplified report)
* displays basic analysis of the MAF data (Comparison to Norm report)
* is written in ASP.NET (Visual Basic)
* uses a SQL Server database

Bill Brierley was responsible for all aspects of this TRA including interviewing the responsible manager and the development team, conducting the analysis, and preparing the results.

Project 59

Treasury Board Secretariat, Chief Information Officer Branch Feb 2008-May 2008

Integration of Enterprise Architecture with the Enhanced (1months)

Management Framework

Enterprise Architect

The Chief Information Officer Branch (CIOB) of the Treasury Board of Canada Secretariat leads the government-wide pursuit of excellence in service delivery and in the management of information and technology for Canada. It’s responsibilities include:

* The Enhanced Management Framework (EMF) for Information Management and Information Technology (IM/IT), an integrated management model comprised of principles, best practices, methodologies, tools and templates, designed to improve the Canadian Governments capability to manage its IM/IT investments, successfully deliver IM/IT projects, and minimize risks; and
* Enterprise Architecture (EA), a framework of principles, standards and practices used to guide the design and implementation of service transformation and IM/IT initiatives.

The CIOB is looking to improve the guidance and monitoring of IT-enabled initiatives through the further integration of EMF and EA practices. The objective of this project was to produce a strategy for integrating the Government of Canada Enterprise Architecture tools into the Enhanced Management Framework.

Bill Brierley’s was responsible for leading the project team in the development of this strategy. Leadership responsibilities included preparing briefing material and delivering presentations to senior level managers. In the course of these duties, Bill led the team in

* Identifying requirements;
* Collecting information on the existing frameworks and identifying and analyzing options for integration, socializing and presenting the options to senior management, and gaining commitment for the direction
* Documenting the resulting plan for integration.

Project 58

Public Service Commission Feb 2008-Sep 2008

Enterprise Architecture Program Design (Count 3 months)

Enterprise Architect

Bill Brierley acted as the lead enterprise / business architect on the development of an enterprise architecture program design for the Public Service Commission.

The Public Service Commission, in partnership with Enterprise Architecture Systems Division (EASD) of TBS has resulted in the agreement to pursue a startup program of work to identify a business design to establish a true Enterprise Architecture program at the PSC that will align with the guidance and direction of the TBS and to use this business design to respond to requests from other departments for similar guidance.

Business modeling for the program design was done using the Governments of Canada Strategic Reference Model (GSRM) and TOGAF was analyzed as a potential framework for implementing parts of the program design. Deliverables included:

* A Program Design and Implementation Strategy for Enterprise Architecture (included target groups and target group needs, business problem assessment, program service alignment models, service integration and accountability models, and implementations strategies)
* Implementation Plan for Program Start-up
* Recommendations on Methodologies and Best Practices

Also included in this effort was advice on the policies and procedures for managing metadata related to enterprise architecture artifacts.

Bill Brierley was responsible for all aspects of the development of the business design for the Enterprise Architecture Program at PSC. This included

* This involved identification and analysis of options, socializing and presenting the options to senior management, and gaining commitment for the direction
* meeting with and preparing briefing material and delivering presentations to senior level managers (EX 2 and EX 3) at both PSC and TBS; and
* documenting the results of the engagement

Project 57

Public Service Commission Feb 2008-Mar 2008

Staffing and Assessment Services Branch Business Architecture (1 months)

Enterprise Architect

The Staffing and Assessment Services Branch (SASB) of PSC is developing a business architecture capability to support their transformation to a cost recovery organization. This project developed, in collaboration with PSC staff, an initial set of GSRM business models for SASB including:

* A target group model,
* A service inventory,
* Program and services alignment models, and
* Service accountability and integration model.

Bill Brierley’s responsibilities on this project included:

* Develop the project plan
* Facilitate working sessions with SASB business architects to develop the models and provide knowledge transfer
* Facilitate meetings with SASB senior executives to collect information regarding SASB business, and
* Review and comment on the results of the modeling activities

Project 56

Department of Fisheries and Oceans Jan 2008-Jun 2008

Enterprise Business Architecture (6 months)

Enterprise Architect

DFO decided to invest in the development of an Enterprise Business Model (EBM) toimprove management effectiveness and clarify accountabilities.The result of this project are three main products:

* a high-level business model for the entire department based on its Program ActivityArchitecture. This model will provide the context for subsequententerprise business modeling in the department.
* a business model of sufficient detail to support implementation of improvements tothe department’s Statistical Information on the Fisheries.
* a business model and a set of recommendations for establishing a permanent EBAfunction in the department.

Bill Brierley’s responsibilities on this project included:

* development of the project plan and engagement strategy
* leading the development of the high-level business model based on the department’s program activity architecture, and
* leading the development of a business model and a set of recommendations for establishing a permanent EBAfunction in the department.
* Identifying analyzing architecture options for improving Statistical Information on the Fisheries
* preparing briefing material and delivering presentations to senior level managers

All business models were developed using Governments of Canada Strategic Reference Model (GSRM)

Project 55

Treasury Board of Canada Secretariat May 2007-Dec 2007

Grants and Contributions Business Review (7 months)

Lead Enterprise Architect

In fulfillment of one of the recommendations of the Independent Blue Ribbon Panel (BRP) on Grants and Contributions (Gs&Cs), Bill Brierley was engaged to lead a business review of the Grants and Contributions activity within the Federal Government which distributes $24.8 B to non-profit groups (33%), people (19%), industry (13%), provinces and territories (16%), municipalities and local Governments (3%), and international organizations and foreign countries (16%).. The Independent Blue Ribbon Panel was mandated as part of the Federal Accountability Act. The President, Treasury Board of Canada convened the BRP in June 2006 to present recommendations aimed at addressing issues related to access, administration, reporting and accountability of grants and contributions. The final report was presented to the President February 2007 (http://www.brp-gde.ca/). Generally, the Independent Blue Ribbon Panel is expecting the government to be making incremental, yet tangible, improvements in the following areas:

* Streamlining the Gs&Cs recipient experience while improving audit ability and accountability;
* Better communication of available Gs&Cs programs to potential recipients;
* Reduce the burden of the application processes where multiple applications are involved;
* Ensuring that adjudication and reporting rules are appropriate given the levels of risk involved and nature of the relationships; and
* Establishing service objectives and standards that can be adjusted as process changes are made to the programs.
* Developing and presenting a series of six web-based training sessions.

This business review establishes the foundation for a multi-year program of change.

Bill Brierley’s responsibilities included

* Working with the facilitation team to conduct cross government engagement with 30 plus participants from Ex -1 to Ex 3 level
* Working through the engagement process to identify and analyze strategic options and build consensus for the selected approach
* Developing architecture design artefacts in support of the engagement
* Documenting the business strategy

Project 54

Treasury Board of Canada Secretariat Feb 2007-Oct 2007

Information Technology Security Strategy Transformation – ( Count 7 months)

Design and Implementation Plan

Lead Enterprise Architect

Bill Brierley was engaged as the lead business architect to complete the business design and implementation plan for the Government of Canada’s IT Security Transformation. The first phase of this effort was completed in March 2006 and produced a vision and strategy for the government-wide management of IT security. This engagement built on this work to establish the detailed design and plans to make the vision and strategy a reality.

Specifically, the objectives of this phase of the IT security strategy include:

* Validate and obtain community buy-in for the IT Security Strategy.
* Identify and analyse implementation options; in particular options for implementing security governance and service delivery.
* Develop an effective design and approach for implementing a long-term sustainable IT security program that addresses both horizontal (government-wide) and vertical (departmental) services.
* Identify and analyze the steps and resources needed to implement the various design elements of the program. This includes the short, medium and long-term elements of the plan and the various elements within it.
* Develop a business case for each of the strategic initiatives. Prioritize the importance of each initiative to identify early spin-off opportunities (building on the Action Plan to Support the Adoption of the Operational Security Standard: Management of Information Technology Security).
* Providing briefings to executive management (EX 1 to EX 3) at Treasury Board
* Conducting cross-government workshops with participants at the EX -1 to EX 2 level

The GC IT Security Transformation encompasses renewal of security policies and mechanisms for coordinating security requirements.

The GC IT Security Transformation was a cross-government initiative. The core team and the broader stakeholder community included members from Public Safety and RCMP

Project 53

Treasury Board of Canada Secretariat Mar 2007-Mar 2007

Identity Management Business Design (1 month) Overlap

Enterprise Architect

Bill Brierley was engaged to provide expert business architecture and design advice on this year-end design project.

Project 52

Communications Security Establishment Sept 2006-Mar 2007

Enterprise Security Architecture Framework (7 months) Count 5 Months, Overlap with project 51

Enterprise Architect

Bill Brierley was engaged as the lead security architect to develop a business and policy driven Enterprise Security Architecture Framework. An enterprise security architecture framework defines a set of models and their relationships which provide a tool for developing individual IT security architectures in a manner that serves enterprise goals such as alignment, reuse, and knowledge management.

This framework will support CSE’s Architecture and Engineering Group in its mandate to provide IT security design advice to the Government of Canada including the public safety and security community.

This framework provides a consistent foundation for defining IM/IT security requirements including compliance with Government of Canada security policy instruments including MITS.

The results were presented to senior management (EX 1 to EX 3) at CSE and Treasury Board

Activities on this engagement included:

* Researching available frameworks and identifying options for the framework.
* Analyzing options and recommending a proposed approach
* Developing consensus around the proposed approach , and
* Documenting the framework

Project 51

Department of National Defence, IM Secure July 2006-Oct 2006

Enterprise Information Security Environment (4 months)

Project Manager and Lead Enterprise Architect

Bill Brierley was engaged by the Department of National Defence to lead the development of a reference architecture framework and report on the current status of IT security architecture within the Department of National Defence.

The reference architecture framework defined a set of models and their relationships to be used to describe both the program management and technical aspects of the information security program within National Defence. This framework provides a consistent foundation for defining IM/IT security requirements including compliance with Government of Canada security policy instruments including MITS.

Activities on this engagement included:

* Researching available frameworks and identifying options for the framework.
* Analyzing options and recommending a proposed approach
* Developing consensus around the proposed approach , and
* Documenting the framework

Project 50

Treasury Board of Canada Secretariat Jun 2006-Sept 2006

IT Security Secretariat (4 months)

Manager

In the final months of the executive interchange, Bill Brierley was asked to manage the IT Security Secretariat. In this capacity, Bill was responsible for conducting one-on-one meetings with departmental CIOs, Departmental Security Officers, and departmental IT Security Coordinators to encourage compliance with the Operational Security Standard on the Management of Information Technology Security (MITS). He was also responsible for overseeing the interim status report on MITS compliance and the implementation of the MITS action plan.

Project 49

Treasury Board of Canada Secretariat Aug 2005-Jun 2006

Security Policy Renewal (11 months) Overlap

Enterprise Architect

While on executive interchange in the position of an enterprise architect responsible for security, Bill Brierley was responsible for providing enterprise architecture support to the renewal of the Government of Canada Security Policy. Working in close cooperation with the security policy group, Bill created business designs, led cross-government consultations, and help conduct bi-lateral negotiations with departments.

The GC Security Policy Renewal was a cross-government initiative. The core team and the broader stakeholder community included members from Public Safety, RCMP, and CSIS

Project 48

Treasury Board of Canada Secretariat Oct 2005-Jun 2006

IT Security Transformation – Vision and Strategy (9 months)

**Enterprise Architect**

While on executive interchange in the position of an enterprise architect responsible for security, Bill Brierley was the lead business architect and methodology process lead on the IT Security Strategy.

Initiated in the wake of reports by the Auditor General and the Public Accounts Committee, the project conducted cross-government consultations to develop a vision and strategy for the government-wide management of IT security.

The GC IT Security Strategy encompasses renewal of security policies and mechanisms for coordinating security requirements

The GC IT Security Transformation was a cross-government initiative. The core team and the broader stakeholder community included members from Public Safety and RCMP.

Activities during this engagement included:

* Conducting environment and problem assessment
* Building initial architecture model to support visioning engagement and options analysis

Conducting cross-government engagement to analyse options and build consensus around the vision

On executive interchange to Treasury Board Secretariat, Bill Brierley was assigned to Public Safety and Emergency Preparedness Canada (PSEPC) on the Interoperability Project. The Interoperability Project is an 18 month strategic planning effort to develop a strategic design and plan for interoperability across the public safety and security community. Interoperability is a key capability required the public safety and security community to ensure good public safety and security outcomes. It consists of collaboration and information sharing services. While a simple concept, realizing interoperability is a complex business design that encompasses a broad range of issues such as legislation, governance, human resources, and information management.

* Challenges to public safety interoperability include
* Compliance with legislation and government policy including security policy;
* Organizational culture; and
* Governance.

During this engagement, Bill Brierley

* Conducting environment and problem assessment
  + Developed a detailed inventory of business problems related to interoperability
  + Led the analysis of the business problems
* Building initial architecture model to support visioning engagement and options analysis
* Conducting cross-government engagement to analyse options and build consensus around the vision
* Developing a strategic (action) plan for implementing the vision
* Developed the vision for interoperability
* Developed a capability model for interoperability
* Contributed to the development of the strategic design (the business architecture for interoperability)
* Acted as a co-facilitator for three workshops
* Represented the business architecture team in the project planning process.
* Contributed to the development of privacy strategies with particular focus on identity issues associated with aggregation of personal information
* Provided regular briefings to project executive and project steering committee (EX 2 to EX 4 levels)

Project 45

Supreme Court of Canada Feb 2004- Feb 2004

E-Filing Application Simplification Project (1 month)

IT Security Architect

Mr. Brierley was engaged to analyze recommendations from a TRA and a Privacy Impact assessment and put together a detailed implementation plan for an e-filing application.

Project 44

Health Canada, Environmental Radiation Health Division Dec 2003- Feb 2004

Laboratory Information Management System Threat and Risk Assessment (3 months)

Security Specialist

Bill Brierley was engaged to prepare a threat and risk assessment on the Laboratory Information Management System implementation within Environmental Radiation and Health Division.

Project 43

Bank of Canada Oct 2003- Nov 2003

Identification, Authentication, and Authorization Framework and Gap (2 months) Overlap

Analysis

Enterprise Architect

Mr. Brierley was engaged to develop framework for the Identification, Authentication, and Authorization services and to examine the current state of these services within the bank and identify gaps and deficiencies in the delivery of these services.

Project 42

Treasury Board of Canada Secretariat Jul 2003- Mar 2004

Information Protection Architecture Support (9 months) Count 5 Months, overlap with Project 40

Enterprise Architect

Mr. Brierley was engaged by Treasury Board Secretariat to provide architecture support on various IM/IT security files. In this capacity, Mr. Brierley participated on behalf of Treasury Board in the development of the first iteration of the Detect, Analyse, Respond Infrastructure (DARI) conceptual architecture and led the development of the second iteration of the conceptual architecture. Also in the capacity, Mr. Brierley was tasked with understanding and briefing DARI participants on the impact of the Business Transformation Enablement Program on the development of the DARI architecture.

Project 41

Canada Customs and Revenue Agency Jun 2003- Dec 2003

IT Security Architecture (7 months)

IT Security Architect

Mr. Brierley was engaged to develop an enterprise wide architecture for the IT Security Program within CCRA. This project consisted of three phases, development of a discussion paper, formal consultations, and documentation and approval of the architecture. Only the first two phases were completed during the above period. Phase three was deferred due to the reorganization of the agency that occurred in December 2003.

Project 40

Department of National Defence May 2003- Oct 2003

ERP Security Architecture (6 months)

Enterprise Architect

Mr. Brierley was engaged to develop two security architectures: an overall ERP (Enterprise Resource Planning) Security Architecture and a platform security architecture for the ERP platforms in the DESC (Defence Enterprise Server Complex). These architectures addressed the medium-term (three to five years) target for National Defence.

Project 39

Health Canada, Consumer Products Bureau Mar 2003- Apr 2003

Online Products Notification System, Threat and Risk Assessment (2 months)

Security Architect

Mr. Brierley conducted a threat and risk assessment on this application during the early stages of the development process. The goal was to identify potential risks and make recommendations for the implementation of technical safeguards and life-cycle processes.

* The Online Cosmetics Notification System (OLCNS) will automate the collection of cosmetic product information from the members of the cosmetic industry in support of:
* The Food and Drug Act and Cosmetic Regulations, which control the manufacture, sale and advertisement of cosmetics in Canada; and,
* The Consumer Packaging and Labelling Act as it apply to cosmetics labelling and which is under the responsibility of the Minister of Industry.

Project 38

Transport Canada Jan 2003- Mar 2003

Secure Wireless Strategy (3 months)

Security Architect

Mr. Brierley provided security architecture services in support of the development of a strategy for the deployment of wireless LANs within Transport Canada’s Network Infrastructure. The project involved identification of user and security requirements, an options analysis, and development of an implementation strategy.

Project 37

Indian and Northern Affairs Canada Nov 2002- Feb 2003

Multi-function Copier, Threat and Risk Assessment (4 months)

Project Manager and Security Architect

Mr. Brierley led a two person team on this threat and risk assessment study. Bill played an active role in client consultations, analysis, and drafting of the reports.

This TRA did not address all security risks associated with the use of multi-function copiers within INAC; rather the focus of this TRA was restricted to risks associated with enabling and using fax capabilities. Specifically this TRA addressed the following questions.

* Can an external attacker gain access through the fax interface to sensitive information held within the multi-function copier? Multi-function copiers are computing platforms with the capability to receive and spool information (to both RAM and hard disk storage). It is conceivable that an attacker could exploit the fax interface to gain access to this information.
* Can an external attacker use the fax interface as a remote access gateway to the INAC network? That is, can an attacker exploit the underlying platform to establish a network path from the fax interface to the internal network interface?

Project 36

Health Canada, Drug Analysis Service Nov 2002- Jan 2003

Laboratory Information Management System, Threat and Risk Assessment (3 months)

Project Manager and Security Architect

Mr. Brierley led a team of three on this threat and risk assessment study. Bill played an active role in client consultations, analysis, and drafting of the reports.

Health Canada had initiated a procurement process to acquire a Laboratory Information management system to support three separate laboratories: Health Products and Food Branch (HPFB), and Biologics and Genetic Therapies Directorate (BGTD) and Drug Analysis Service. This threat and risk analysis study was conducted for the Drug Analysis Service on the proposed system prior to procurement. The objective of this study was to identify potential risks to the Drug Analysis Service associated with the implementation of the LIMS and to make recommendations for the integration, testing and operation of the LIMS.

Project 35

Communications Security Establishment Oct 2002- Mar 2003

Intrusion Detection Test Methodology (6 months)

Security Architect

Working in partnership with Infinity Technology Services (ITS), Mr. Brierley provided security architecture services to generalize and extend ITS’s IDS laboratory architect and test methodology.

Project 34

Department of National Defence Sep 2002- Oct 2002

Canadian Forces Experimentation Network Threat and Risk Assessment (2 months)

Project Manager

Mr. Brierleymanaged a team of three in this threat and risk assessment study. Bill provided technical leadership and quality assurance in his role on this engagement.

The Canadian Forces Experimentation Network (CFX Net) is a permanent network designed to support year-round Concept Development and Experimentation (CD&E) as well as Modeling and Simulation (M&S). Primarily, it will be used by CD&E centres, including those of Defence Research and Development Canada (DRDC). These activities include conducting technical demonstrations, evaluations, assessments and experimentation. It will also serve to template an operational network and to resolve various doctrine and policy obstacles in a Canadian and/or Coalition non-operational environment.

Project 33

Treasury Board of Canada Secretariat and Jan 2001- Jun 2002

Communications Security Establishment (18 months)

IT Security Zones Baseline Security Requirements Oct 2002- Mar 2003

Role: Enterprise Architect and Project Manager (6 months)

Mr. Brierley was a prime contributor to the development of the IT Security Zones Baseline Security Requirements. The IT Security Zones Baseline Security Requirements are published by CSE as an IT Security Directive and will be a mandatory standard for network security within the Government of Canada following a transition period. Bill’s contributions included:

* development of the architectural concepts for the standard;
* participating in the technical working group drafting version 1.0 of the standard;
* leading a team conducting an analysis of implementation options for the Public Access Zone (the interface to public networks);
* leading a team in the drafting of version 2.0; and
* leading the editorial process to produce version 2.1 which is the version to be published as an IT Security Directive.
* Activities leading to these contributions included:
* liaison with the Network Domain Architecture Team (NDAT) to ensure that security and network domain architectures were compatible;
* presentations to the Treasury Board Core Architecture Team and the Architecture Review Board; and
* interdepartmental consultations which included
* Presentation to the Heads of IT Departments
* Bilateral briefings with GTIS, CCRA and Industry Canada

Project 32

Department of Foreign Affairs and International Trade Feb 2002- Apr 2002

Perimeter Defence Conceptual Architecture (3 months)

Project Manager and Enterprise Architect

Mr. Brierleyled a team to develop a network security solution for perimeter defence services at DFAIT. The result was a report describing the conceptual security architecture and a presentation to the Architecture Council at DFAIT.

Project 31

Nav Canada Mar 2001- Jul 2002 (Count 12 Months from Aug. 2001)

Telecommunications Renewal Project (17 months)

Security Architect

TRM Technologies was engaged to lead Nav Canada through a complete renewal of its network infrastructure. As part of the TRM solutions team, Mr. Brierley is responsible for the development of all deliverables related to IT security. These include

* The development of a statement of threat;
* The development of system security requirements;
* The development of a conceptual security architecture; and
* The development of technical and functional specifications.

Project 30

Department of National Defence Mar 2001-Jul 2001 (Count 5 months, overlap with Project 33)

Integrated Defence Enterprise Architecture Framework Feb 2002- Mar 2002 (2 months, overlap with Project 33)

Enterprise Architect

The Integrated Defence Enterprise Architecture Framework (IDEAF) has been introduced to provide the overall context for integrating Departmental plans for enterprise transformation in support of strategic enterprise capabilities. The IDEAF provides the basis for using architecture modeling techniques to match capabilities at all levels of enterprise planning. It positions the role of Information Management Systems and Infrastructure within a broader strategic context related to the Revolution in Military Affairs and the Revolution in Business Affairs (RMA/RBA). It is intended that this framework will assist the various planning teams across the DND/CF by providing a unified and common set of enterprise elements and related reference models around which to plan and coordinate the complex changes involved in RMA/RBA. It is intended that this framework will apply across all functional areas of the DND/CF and extend to address interoperability requirements and solutions with Other Government Departments, Allies, Contractors, and other key external entities.

Bill Brierley was contracted to develop a security reference model in support of the IDEAF and to prepare an initial “As-Is” architecture by mapping existing safeguards into the architecture and performing a gap analysis.

Project 29

Department of National Defence Mar 1997- Sep 1999 (31 months)

Defence Integrated Human Resource System Sep 2000- Mar 2001 (7 months)

Security Architect

The Defence Integrated Human Resource System is an enterprise-wide human resource management system based on PeopleSoft to support National Defence and the Canadian Forces. Bill Brierley was responsible for:

Analysing available government information (including, for example, the Government of Canada Security Policy, Treasury Board Policy on Privacy and Data Protection, and National Defence architecture and policy documents);

Consulting with appropriate contacts and holding meetings and or workshops;

Developing/revising security architecture artefacts according to National defence requirements including the following:

The system security policy, and

* The system security architecture;
* Developed system security requirements;
* Developed security orders;
* Developed standing operating procedures;
* Developed intrusion monitoring and detection practices;
* Prepared all documentation required to support certification and accreditation of the various subsystems;
* Prepared implementation plans;
* Developed plans for integrating the system with the DND PKI (including integration with LDAP and X.500 directories) when it becomes available;
* Developed procurement specifications for security software; and
* Advised senior project management on issues related to privacy.

As the security architect, Mr. Brierley developed network security solutions for the distributed system which included solutions for:

* the allocation and configuration of firewall functionality;
* the integration of approved cryptographic protocols;
* the integration of the Public Key Infrastructure including access to LDAP and X.500 directories,
* TCP/IP based networks;
* web security including HTTP, FTP and S-HTTP,
* platform security for Microsoft desktops and LAN servers and UNIX enterprise servers
* messaging using SMTP,
* database security for various versions of Oracle,
* secure virtual private networks using IPSec, and
* PeopleSoft security.

Project 28

Department of National Defence May 2000- Sep 2000

Defence Integrated Human Resource System, Threat and Risk Assessment (5 months)

Security Specialist

The Defence Integrated Human Resource System is an information management system supporting the Human Resource management process within the Department of National Defence. Mr. Brierley was responsible for conducting a security threat and risk assessment of this system in support of certification and accreditation.

Project 27

Health Canada Dec 2000- Jan 2001

PKI Online Registration Application Review (2 months)

Security Specialist

The Health Canada PKI Online Registration Application is a web-based application, which provides Health Canada employees and contract staff with a paperless registration process. This process results in the subscriber being issued a Public Key Certificate. The Public Key Certificate is the subscriber’s electronic proof of identity and will be used to support electronic signatures and data encryption.

Bill Brierley was responsible for conducting a risk assessment (approached based on the CSE guidance documents) and review of the security features in this application prior to deployment and for recommending changes as required.

Project 26

Corrections Services Canada Oct 2000- Feb 2001

Internet to the Desktop Pilot Evaluation (5 months)

Project Manager and Security Architect

Correction Services Canada implemented a pilot to test the feasibility of extending Internet access to the desktop. Bill Brierley led a team conducting an evaluation of the security issues arising from this pilot. In this capacity Bill Brierley was responsible for:

* the development of a security white paper identifying best practices in Internet Security; and
* a report on current internet usage within the department.

Project 25

Department of National Defence Jan 2000- Apr 2000

Desktop and Network Security (4 months)

Configuration Management Tool Requirements Study

Project Leader/Security Specialist/Technical Architect

The National Defence Directorate of Distributed Computer Engineering and Integration engaged Bill Brierley’s firm to develop requirements for a tool or suite of tools to provide consistent configuration management across their computing infrastructure with the goal of limiting their exposure to security vulnerabilities. Bill Brierley was responsible for performing a market survey of available products which included identification of product capabilities to:

* Protect Microsoft, Unix and Linux based hosts, and to
* Monitor the configuration of IP based networks with TCP or UDP transport layer protocols;
* Analysing available documentation, consulting with various stakeholders, and conducting workshops to identify functional requirements,
* Conducting a requirements analysis to prioritise the requirements in light of the current state of the practice, and
* Preparing a formal procurement specification.

The resulting specification represents the development of a vertical network security solution with in an enterprise environment.

Project 24

Department of National Defence Feb 2000- Apr 2000

Telecommunications Service Renewal Project (3 months)

Security Specialist

The Department of National Defence issued a Request for Proposal for bids to outsource the provision and operation of its voice and data communications. Bill Brierley was engaged to provide expert support to the bid evaluation team.

Project 23

Department of National Defence Jun 1995- Jul 1997 (25 months)

Land Forces Command System Dec 1998- Nov 1999 (12 months)

Security Architect

The Land Force Command System project is responsible for the architecture, design and implementation of a system to support the command and control process for the Canadian Land Force. The Land Force Command System is implemented on top of the Iris Tactical Command and Control Communications System. Bill Brierley responsibilities included:

Conducting detailed threat and risk assessments to validate security requirements and high-level system design which required detailed analysis of:

* Military off-the-shelf command and control software,
* CORBA and CORBA compliant Object Oriented Databases,
* Unix and Microsoft Operating Systems,
* Network and network security protocols including X.400, SMTP X.500, LDAP, FTP, Telnet, TCP, UDP, IP, and IPSec,
* Wireless security, and
* Security Audit Configuration and Intrusion Detection.
* Participating in the development and evaluation of the RFP which included the development of specifications which addressed:
* Military off-the-shelf command and control software,
* CORBA and CORBA compliant Object Oriented Databases,
* Unix and Microsoft Operating Systems,
* Network and network security protocols including X.400, SMTP X.500, LDAP, FTP, Telnet, TCP, UDP, IP, and IPSec, and
* Security Audit Configuration and Intrusion Detection; and
* Providing advice on other matters as required.

Project 22

National Research Council Nov 1998- Jun 1999

Network Access Study (8 months)

Business Analyst

The National Research Council is Canada’s foremost Research and Development agency. The network access study examined the business requirements and constraints for network access. In particular, the NRC supports collaboration between government, private sector, and academic research organisations with the goal of commercialising resulting technology. This requires an open network environment to foster communication between the parties in order to foster innovation, yet it also requires a network environment in which parties can protect their intellectual property. This study examined business and technical issues associated with providing network services in this type of environment. Mr. Brierley was the subject matter expert in this study. His responsibilities included:

* Developing a requirements questionnaire;
* Conducting interviews with key stakeholders;
* Participating as a subject matter expert in requirements workshops;
* Developing network security solutions on which to base recommendations;
* Developing recommendations; and
* Presenting the recommendations to senior management.

Project 21

Price Waterhouse Coopers Jul 1998- Sep 1998

Materiel Acquisition Support Information System Bid Submission (3 months)

Security Architect

The Materiel Acquisition Support Information System (MASIS) Project is a very large (over $100 million) to implement an enterprise wide materiel management system within National Defence. Mr. Brierley provided system and security architecture design services to the PricewaterhouseCoopers proposal team. His responsibilities included:

* Developing a system and security architecture
* Evaluating supplier proposals, and
* Making presentations to senior management and to the evaluation committee.

Project 20

Cancer Care Ontario July 1998- July 1998

Ontario Cancer Registry Database Encryption Study (1 month)

Security Specialist

Cancer Care Ontario manages the Ontario Cancer Registry (OCRIS), a computerized database of information on all Ontario residents who have been newly diagnosed with cancer or who have died of cancer. This project examined the feasibility and costs associated with encrypting personal identifiers in the OCRIS database. Bill Brierley was responsible for all aspects of this study.

Project 19

Canada Post May 1998- Jun 1998

Parcel Simplification Project (2months)  
Service Performance Evaluation System and Business Process Review

Business Analyst

The Canada Post Parcel Simplification Project was a major initiative to redesign the parcel product offerings. The Service Performance Evaluation (SPE) group is a division of customer service responsible for measuring the performance of the various mail products and services provided by Canada Post Corporation. Mr. Brierley was responsible for conducting a review of the SPE business processes and systems to assess the degree to which the SPE organisation was ready for the implementation of the redesigned parcel products. He successfully accomplished the following:

* Identified the requirements and expectations for services performance measurement on the redesigned parcel products;
* Identified the status of changes required to successfully measure the new products;
* Identified impacts on the quality of these measures;
* Presented the results to senior staff in the Information Systems and Customer Service Divisions;

Project 18

Coopers & Lybrand Mar 1998- Apr 1998

DND DEMS II CEM Bid Submission (2 months)

Implementation Planner

The Departmental Email System (DEMS) II Common Electronic Mail (CEM) project implements a uniform email system for unclassified and (eventually) designated e-mail within National Defence. Mr. Brierley was the senior technical resource on the Coopers and Lybrand proposal team. His responsibilities included:

* Developing a detailed implementation plan,
* Contributing to the development of the system and security architecture.

Project 17

Department of National Defence Jul 1997- Oct 1997

Army Information Management Strategy (4 months)

Security Architect

Army Information Strategy project developed an overarching architecture and five-year implementation plan to provide information management support to the Canadian Land Force. Bill Brierley was responsible for:

* Analysing available government information and consulting with appropriate contacts and participating in/ conducting workshops;
* Developing security architecture artefacts;
* Developed a five-year implementation plan for the security architecture.

Project 16

Department of National Defence Apr 1997- Jun 1997

Land Forces Technical Architecture (3 months)

Security Architect

The Land Force Technical Architecture Project defined the technical standards for Canadian Land Force Information Systems. Bill Brierley was responsible for defining the technical security standards including standards for:

* X.400 and SMTP based messaging
* PKI and X.500 and LDAP directories,
* Microsoft and Unix operating systems,
* Networking protocols including HTTP, FTP and Telnet,
* Internet security protocols including SSL, S-HTTP, S-MIME,
* Wireless security,
* TCP and UDP over IP and DNS, and
* Intrusion detection and firewalls.

Project 15

Department of National Defence Mar 1994- Apr 1997

Reserve Integrated Information Project (37 months)

Security Architect

The Reserve Integrated Information Project was a large $80 million dollar effort aimed at bringing an integrated management system to the Canadian Reserve Forces. The project integrated pay, budget, training, personnel and logistics functions and delivered these to Reserve Force Units across Canada. The project involved the design and implementation of the wide area infrastructure and the development of a custom application developed using Oracle Forms at the client and Oracle and Trusted Oracle 7 as the database management systems. Communications security was based on session layer protocols. Key management is provided by a public key infrastructure based on Entrust Manager and Server integrated with a third party X.500 directory. Mr. Brierley was responsible for a team of eight security professionals. Mr. Brierley and his team were responsible for trusted application design; secure system engineering, and certification support. Mr. Brierley responsibilities included:

* Developing all plans (using a variety of project planning tools including MS Project), determining equipment and budget requirements, directing personnel, cost control and implementation of quality assurance procedures;
* The development and maintenance of all security requirements; (The security requirements engineering process was tightly integrated with the other engineering disciplines in order to develop a set of balanced set of security requirements. Security requirements were developed from existing security policy and standards, threat and risk assessments, and from critical user requirements. Where appropriate Mr. Brierley also influenced the development of departmental standards. The security requirements developed by Mr. Brierley and his team have proved to be both cost effective and have the blessing of the DND security authorities.)
* The development and maintenance of the overall security architecture including a security architecture for network and systems management;
* The development of threat and risk assessment;
* Porting all releases of the software to a multi-level secure platform;
* The design of trusted software components;
* The implementation of system, network, and database security measures (including implementation of the PKI infrastructure required to support the system);
* Supporting the certification and accreditation of all sites (approximately 200); and
* Contributing to the development of the overall system, network and application architectures.
* In the course of this engagement, Mr. Brierley conducted analysis of government information pertinent to the security architecture, consulted with appropriate contacts within government, and conducted meetings and workshops.

Project 14

Department of National Defence Sep 1994- Dec 1994

Information Technology Infrastructure Security Policy (4 months)

Security Specialist

As a consultant to Directorate IT Security, Bill Brierley developed a technical security policy for the Information Technology Infrastructure at National Defence

Project 13

Communications Security Establishment Sep 1993- Feb 1994

Advanced Evaluator Training (6 months)

Security Specialist

The Communications Security Establishment provides training for its trusted systems evaluators. Mr. Brierley was contracted to develop and deliver courses in Security Policy Models and Trusted Product Evaluation Criteria.

Project 12

Communications Security Establishment and Aug 1993- Dec 1993

US National Institute of Science and Technology (5 months)

Security Risk Assessment Tool Evaluation Framework

Security Specialist

The Communications Security Establishment is Canada’s lead information security agency. In partnership with the U.S. National Institute of Science and Technology, they formed a small working group to develop a framework for evaluating risk assessment tools. Mr. Brierley was one of four principal researchers assigned to this working group. Along with the other members of the working group, he successfully accomplished the following:

* Development of a framework for security risk assessment tools,
* Developed criteria for an effective security risk assessment tools, and
* Prepared a final research report.

Project 11

Department of National Defence Mar 1993- Jun 1993

CFSSU Independent Verification and Validation (4 months)

Security Specialist

The Canadian Forces Supply System Upgrade was a very large (>$100 million) effort aimed at providing a secure client-sever supply system for the Canadian Forces. As part of the overall bid evaluation effort, Mr. Brierley was responsible for conducting independent verification and validation on the security portion of the bidder’s proposals.

Project 10

Department of Foreign Affairs and International Trade Jun 1993- Jul 1993

SIGNET Review (2 months)

Security Specialist

SIGNET (Secure Integrated Global Network) is the worldwide data network supporting Canada’s foreign missions. This engagement was a business review of the SIGNET implementation. Mr. Brierley was responsible for reviewing the compliance of the project with the Government of Canada Security Policy.

Project 9

Communications Security Establishment Apr 1993- Jun 1993

Trusted Product Evaluation Criteria – Data Exchange (3 months)

Security Specialist

The Communications Security Establishment is Canada’s lead information security agency. As such it is responsible for the maintenance of programs for the evaluation of trusted systems. Mr. Brierley was engaged to develop an extension to the Canadian Trusted Product Evaluation Criteria to address the secure exchange of information between trusted components.

Project 8

Telesat Mobile Jan 1993- Mar 1993

Mobile Satellite Phone Security Study (3 months)

Security Specialist

Bill Brierley prepared a report on the application of the Government of Canada Security Policy to a mobile satellite network and conducted a system security study for a telecommunications provider.

Project 7

Aepos Dec 1992-Jun 1993

Consultant (7 months)

Bill Brierley joined Aepos as an IT security specialist. Mr. Brierley was recruited by Aepos as part of their efforts to secure a spot on the Infosec Evaluation and Risk Assessment Supply Arrangement (IERA – the fore runner of the current CPSA) which was first tendered in 1993.

Project 6

Communications Security Establishment May 1990- Dec 1992

Various Positions

Bill Brierley joined CSE in 1990 as a cryptographer. In 1991, Bill was transferred to the software evaluation unit where his skills in formal methods were applied to the evaluation of high assurance systems. In 1992, Bill was appointed as acting Unit Head over the software evaluation unit.

During his tenure at CSE, Bill was recognised by the Chief CSE for his work on the Canadian Criteria and contributed significantly to a number of large Crown projects including:

* the Integrated Defence Network
* Canadian Forces Supply System Upgrade
* Tactical Command, Control, and Communications System.

Also, during this period, Bill gained significant experience in

* The analysis of cryptographic algorithms and their implementations
* The development of international standards
* Secure operating systems and secure databases, and
* The application of formal methods to security.

Project 5

Marianopolis College Sep 1988- April 1990

Professor of Mathematics

Marianopolis College is a private CEGEP in Montreal offering academic courses at the junior college level. Bill Brierley was employed as an instructor of mathematics and computer science. While at Marianopolis College, Bill distinguished himself for his ability to communicate mathematics to non science students. He also had the opportunity to gain experience in curriculum development – developing “Introduction to programming using FORTRAN” for science students.

Project 4

Montreal Diet Dispensary Feb 1988- Jan 1989

Database Analyst

The Montreal Diet Dispensary is a charitable organisation, which provides nutritional support and information to low income families. It also maintains a database of the cost of basic food requirements in remote communities throughout Canada. This database is used to determine the minimum food allowance required for low-income families in these remote locations. His responsibilities included:

Maintaining a custom built database, and

Converting the database to an off-the shelf database management system.

CORPORATE HISTORY

Project 3

Farlane Systems Inc. Jan 1996-Present

President

Bill Brierley founded Farlane Systems Inc in 1996 following the dissolution of Brierley Doucette and Simpson Consulting Inc. This company has provided Bill Brierley with a platform for his consulting activities.

Farlane Systems Inc operates in collaboration with other vendors to deliver consulting services in the areas of cyber security, project management, systems architecture, and enterprise architecture.

Farlane Systems Inc also collaborates with other vendors to develop cyber security capability and provide practice management services. In this role Bill Brierley started the IT security practice at TRM Technologies Inc. in June of 2000 and developed this practice into a $2 million business by Jan 2003 and established TRM as one of 4 vendors on the ITISPS Supply Arrangement (ITISPS was replaced in 2006 by CPSA).

In 2004, Bill put his practice on hold and accepted an Executive Interchange with Treasury Board Secretariat. He returned to his practice in 2006.

In 1998, Farlane Systems struck an associate agreement and offered its services through Coopers & Lybrand.

Project 2

Algonquin College Jan 04-April 04

Instructor – Part Time Sept 04-Dec 04

Bill Brierley was employed by Algonquin College in the winter and fall of 2004 to develop course material for and teach courses in its Information Systems Security Program.

In the winter of 2004, Bill developed and delivered a course on information systems security architecture. In the fall of 2004, he developed and delivered a course on communications security. Both courses are still in use as part of the Information Systems Security Program.

Project 1

Brierley Doucette and Simpson Consulting Inc. July 1993-Dec 1995

President

Bill Brierley started Brierley, Doucette and Simpson with partners Rick Doucette and Scott Simpson with a goal of establishing a leading edge IT security practice in Ottawa. Between July 1993 and April 1995 Bill and his partners built a vibrant practice employing eight top notch security professionals and with annual revenues of just shy of $1 million. However, federal government downsizing in the summer of 1995 led to the cancellation of key contracts. Unable to find additional investment in time to ride out the storm, Bill and his partners decided to dissolve the practice in the Fall of 1995 and pursue separate interests.

PRESENTATIONS

|  |  |
| --- | --- |
| 2006 | Transforming IT Security, Transforming Government: better Outcomes for Citizens Conference, Dec 6-8, 2006, Carleton University |
| 2006 | Security Challenges and Opportunities, facilitated session in the Government Security Policy Conference. |
| 2005 | Practical Introduction to BTEP, two day course on business transformation delivered to PWGSC |
| 2005 | BTEP Overview, half day session with the Letterkenny Institute |
| 2005 | Evolution of “e”, key note address to Eircom GovTech Symposium, Dublin |
| 2005 | Practical Introduction to BTEP, two day course on business transformation delivered to Office of the Taiosearch, Republic of Ireland |
| 2005 | Transforming IT Security, Presentation at Better Outcomes Conference, Sept 12-14, 2005. Co presented with Mike de Rosenroll, PWGSC and Peter Laneville, CSE |
| 2004 | Communications Security Course, developed and taught semester course (48 Hours) at Algonquin College |
| 2004 | Information Systems Security Architecture, developed and taught semester course (48 Hours) at Algonquin College |
| 2003 | CISSP Training  Speaker: Cryptography Overview |
| 2003 | Wireless Industry Consortium  Panel Participant: |
| 2003 | CSE IT Security Symposium  Speaker: Security Requirements for a General Purpose Enterprise Network |
| 2002 | Wireless Industry Consortium  Panel Participant |
| 2002 | CSE IT Security Symposium  Speaker: Building an Enterprise Security Architecture Using Baseline Controls |

CERTIFICATIONS

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| Current Professional Certifications |  |
| Certified Information Systems Security Professional (CISSP)  Certified Cloud Security Professional (CCSP) | 2001 |
| TOGAF 9  Open FAIR | 2010 |
|  |  |
| Other Educational Activities – Highlights |  |
| Doctoral Studies (Mathematics) – McGill | 1985-1993 |
| Theoretical Foundations for Trusted Information Systems.  Five-day course at the U.S. National Cryptologic School | 1992 |
| Architectures for Trusted Information Systems.  Five-day course at the U.S. National Cryptologic School | 1992 |
| Security Model Interpretation.  Five-day course at the U.S. National Cryptologic School. | 1992 |
| Introduction to Trusted Oracle 7 and Administer the Trusted Oracle 7 Database. (5 days) | 1995 |
| SANS Network Security ’99, Network based Intrusion Detection and Advanced Intrusion Detection and Packet Filtering. (5days) | 1999 |
| Zachman Framework |  |
| TOGAF |  |