

Inter-jurisdictional
Identity Management
and Authentication
Task Force

Executive Summary

July 2007

A Pan-Canadian Strategy for Identity Management and Authentication



Executive Summary

All Canadian governments -- federal, provincial, territorial and municipal -- share a common need to provide services to citizens and businesses across multiple channels (i.e., online, over the telephone, by mail and in person) in a client-centric way. The potential benefits of doing this are significant: improved service delivery and client engagement through increased accessibility and choice and significant cost reductions.

Many informational services are already provided through these delivery channels. However, there is a growing need to offer transactional services in this way (particularly over the Internet) and to provide a seamless service delivery experience in a cross-jurisdictional context. Increasingly, we hear stories about identity fraud or recently, about a person being denied rightful access to a Canadian Citizenship Certificate because of inconsistent naming requirements between provincial and federal agencies¹. And as more transactional services move on-line, new identification and authentication policies and practices are being created (and recreated) in ad hoc ways, which will make future service transformation increasingly more difficult and costly.

A continuing challenge has been to keep pace with the rising expectations of citizens and businesses for high quality, cost-effective public services. Clients benchmark their expectations against previous service experiences in both the private and public sector. They are now used to multi-channel access for information and forms and services like online banking and therefore increasingly expect to interact with government about an array of services through a channel they choose, and at their convenience.

Looking ahead, larger and more complex vertical and horizontal service initiatives can be anticipated as programs increasingly collaborate across department and jurisdictional boundaries. Citizens are also expecting greater engagement with government, more control, and greater choice. Thus, Internet-related technologies are having and will continue to have a profound effect on service delivery. However, there are as yet no broad authentication solutions to support this deeper client engagement with the public sector. At present, jurisdictions are creating authentication solutions and frameworks independently, using non-standard terminology and architecture. The longer this situation continues, the more costly and difficult it will be for jurisdictions to collaborate and streamline service delivery in the future. A scan of work in this area revealed at least 14 different IdM&A initiatives that have been completed or are underway across the country.

Maintaining the status quo will clearly not produce the inter-operable environment that is necessary to enable the vision of seamless multi-channel cross-jurisdictional service delivery. Adding to the complexity is the fact that cross-jurisdictional service delivery encompasses many federal departments, 13 provinces and territories, 7000 municipalities and numerous agencies, boards and commissions and may include cross-border initiatives. As a result, service delivery initiatives, their content and processes will become increasingly complex and more vulnerable to security and privacy breaches and fraud.

¹ See the Task Force's Interim Report at <http://www.iccs-isac.org/eng/ITF2007.html>

Secure, effective and appropriate identity management and authentication (IdM&A) of citizens and businesses is therefore needed to provide one of the key foundational elements on which jurisdictions will deliver services. Anticipating this, in November 2006, Deputy Ministers responsible for Service Delivery Collaboration decided to form a short-term Identity Management and Authentication Task Force (“Task Force”).

The Task Force was asked to develop a flexible Pan-Canadian Identity Management and Authentication strategy and framework that would support:

- Convenient and protected multi-channel access to services for both citizens and businesses.
- Trust among jurisdictions providing coordinated services.
- The vertical re-grouping of services to citizens and businesses (federal–provincial-territorial-municipal) while recognizing regional differences.
- The ability to leverage existing infrastructure and the increased interoperability of systems.
- A risk-based approach.
- The privacy and security of both personal information and confidential business information.
- Strong public administration, trust and accountability.

Task Force Mandate

The Task Force was given a six-month timeframe in which to achieve its three key deliverables:

1. **A Pan-Canadian Strategy for IdM&A.** This included:
 - A framework for IdM&A that would facilitate cross-jurisdictional, multi-channel service delivery for citizens and businesses. This would leverage the work done to-date in each jurisdiction and represent the optimal solution for Pan-Canadian use.
 - Recommendations for how to align with privacy policies and ensure consistency between IdM&A and privacy efforts.
 - Recommended tools and management models.
2. **A Governance Structure** and funding model.
3. **An Action Plan** for how the strategy would be implemented, how existing work would be aligned with it and recommendations on pilot projects. This would include recommendations on:
 - Pilot projects with corresponding deliverables.
 - The timelines, resources, and costs involved.
 - Monitoring and reporting e.g., indicators, evaluation, and verification methods.

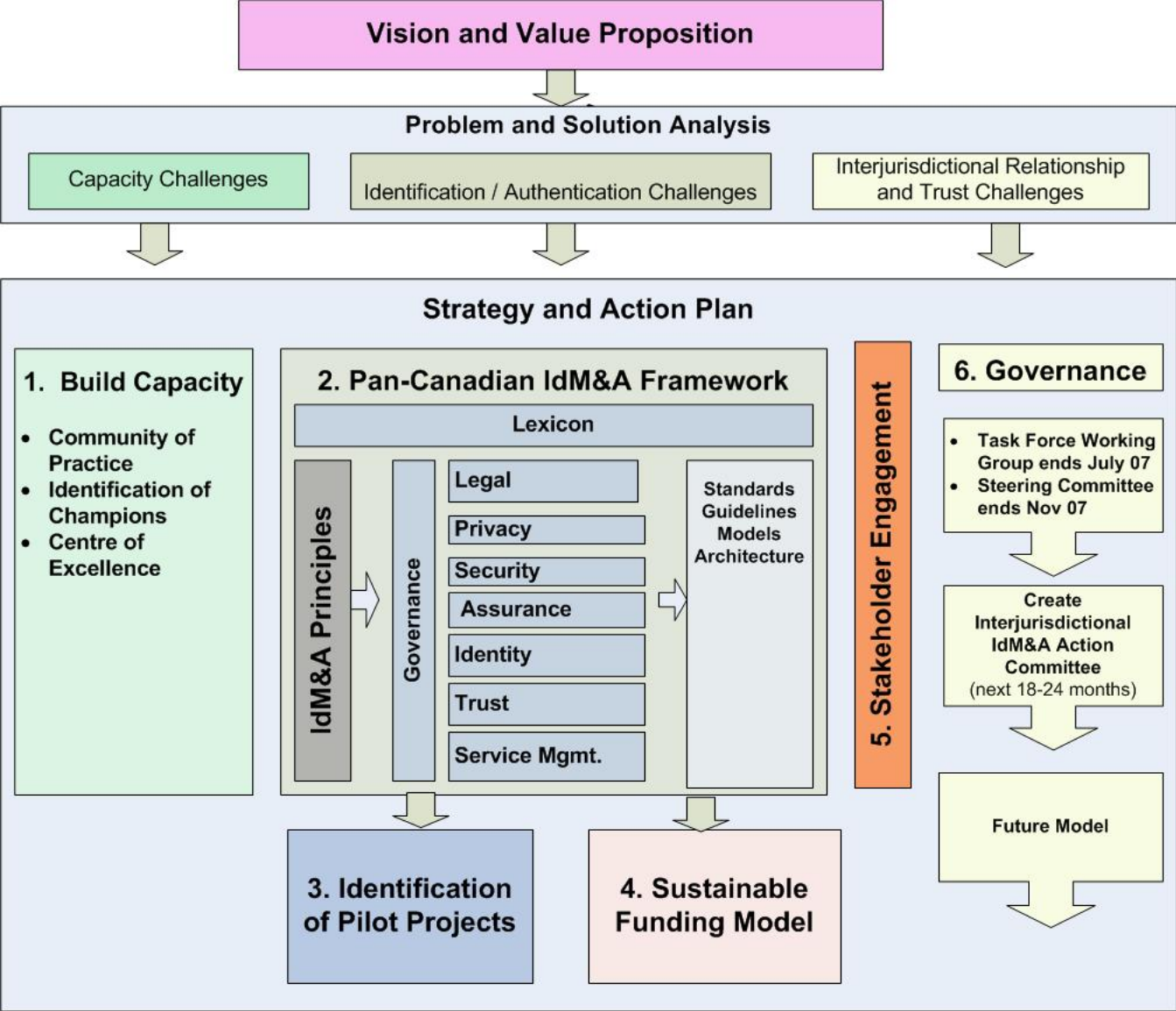
To achieve its mandate, the Task Force has:

- Consulted broadly with stakeholder groups to understand their concerns and challenges.
- Reviewed existing Canadian initiatives in IdM&A.

- Scanned what other countries are doing to address the issues involved.
- Reviewed the published literature on IdM&A.
- Reviewed the governance mechanisms used by other pan-Canadian organizations.
- Surveyed the tools, techniques and methods available for IdM&A.
- Conducted a detailed problem and solution analysis.
- Proposed a strategy and action plan for moving forward.

Figure 1 illustrates the flow of this work.

Figure 1. An Overview of the Work of the Task Force



Task Force Vision and Value Proposition

The overarching vision of the Task Force has been to create a Pan-Canadian IdM&A Framework that will support a seamless, cross-jurisdictional, user-centric, multi-channel service delivery experience for citizens and businesses when interacting with all levels of government. In this vision:

- **Citizens and businesses enjoy simple, convenient and protected access to multi-jurisdictional services in a manner they choose and control.**
- **All governments in Canada are trusted, collaborative leaders in citizen-centred service delivery.**

However, in order for a Pan-Canadian IdM&A strategy to be broadly adopted by governments, citizens and businesses, there must be widespread recognition of the value it would deliver. As a result, the Task Force has also articulated a clear value proposition for all stakeholders:

For citizens and businesses, a Pan-Canadian IdM&A solution will:

- Improve their experience with service delivery by enabling them to seamlessly access services as needed, regardless of the jurisdiction.
- Provide them with access to a greater range of transactional services.
- Be easy to use and consistent.
- Require less duplication and effort.
- Promote business efficiency and compliance, while minimizing cost.
- Increase their trust that both personal and confidential business information are managed in a private and secure way.
- Increase their willingness to transact with government (particularly on-line).

For all levels of government, a Pan-Canadian IdM&A solution will:

- Enable cost-effective service delivery by leveraging consistent processes, reducing errors, streamlining front and back end processing and maximizing infrastructure investments.
- Provide sustainable, practical authentication practices.
- Leverage existing work done by some jurisdictions.
- Establish a foundation for transparent IdM&A principles and standards, leading to seamless service delivery and public confidence in identity proofing.
- Enhance trust and confidence in the public sector through improved client satisfaction and access to more on-line services requiring authentication.
- Enable the public sector to respond faster to cross-jurisdictional needs.
- Reduce risk and liability and the likelihood of fraud.
- Increase the likelihood of clients transacting on-line as concerns about privacy and identity theft decline.

The Task Force recommends the adoption of this Vision and Value Proposition as the foundation on which further work on IdM&A between jurisdictions should be developed.

Challenges to Establishing a Pan-Canadian Framework

As a first step to developing a strategy to achieve its vision, the Task Force investigated, analyzed, and proposed solutions for the current barriers or challenges jurisdictions face in IdM&A activities. It concluded that there are three main sets of challenges that must be addressed or overcome in order to establish a Pan-Canadian IdM&A framework:

1. **Capacity challenges.** These relate both to the ability of jurisdictions to participate and engage in a Pan-Canadian IdM&A framework and to their ability to engage in any IdM&A activities at all, even within their own jurisdiction. Capacity challenges fall into two main categories:
 - Limited expertise, particularly with respect to interdepartmental or inter-jurisdictional IdM&A initiatives.
 - Limited resources, particularly for multi-year cross-jurisdictional initiatives.
2. **Challenges associated with identifying and authenticating clients.** These relate to the difficulties of accurately identifying and authenticating clients to a required level of assurance, particularly over remote channels. There are four key challenges in this area:
 - Concerns about identity fraud and serving the wrong client.
 - Inadequate and inconsistent identification processes, caused by a lack of standards, concerns about data integrity, and limited risk assessment tools.
 - The complexity and novelty of IdM&A, particularly in a service delivery context. For example, individuals can have multiple identity contexts (e.g., employee, mother, patient, small business owner) and can be identified in different ways depending on the context. In addition, many identity attributes change over time (e.g., name, address, profession, physical features).
 - Privacy concerns such as the inherent risk that IdM&A processes pose to privacy, citizens' concerns about profiling and tracking, emotional reactions to identification systems, and the lack of available privacy-enhancing technologies.
3. **Challenges associated with inter-jurisdictional relations and trust.** There are four significant challenges in this area:
 - A lack of effective governance and leadership for both inter-departmental and cross-jurisdictional IdM&A initiatives. This is often caused by limited understanding of the complexity of IdM&A at senior levels and the fact that individual ministerial accountability encourages a focus on the vertical dimension of government, rather than the horizontal perspective. As well, cross-jurisdictional initiatives tend to rely on the exercise of influence (persuasion and negotiation), rather than on authority (command and compliance), making these difficult to manage.
 - Structural and administrative challenges, such as: departmentalism (silos); different laws, regulations and policies across jurisdictions, which may pose legal or policy impediments to the sharing of information; a risk-averse environment; and a culture resistant to change.
 - Cultural barriers, including concerns that First Nations and immigrant communities may have about IdM&A systems.

- Interoperability and trust challenges resulting from a lack of common terminology, shared principles and understanding about IdM&A, and the lack of common policies, models, processes and standards.

Possible solutions to these challenges guided the development of the Task Force's overall strategy which included the following three deliverables: a Pan Canadian IdM&A Framework; a proposed governance structure and funding model; and, an action plan for implementing the strategy.

Deliverable 1: The Pan-Canadian IdM&A Framework

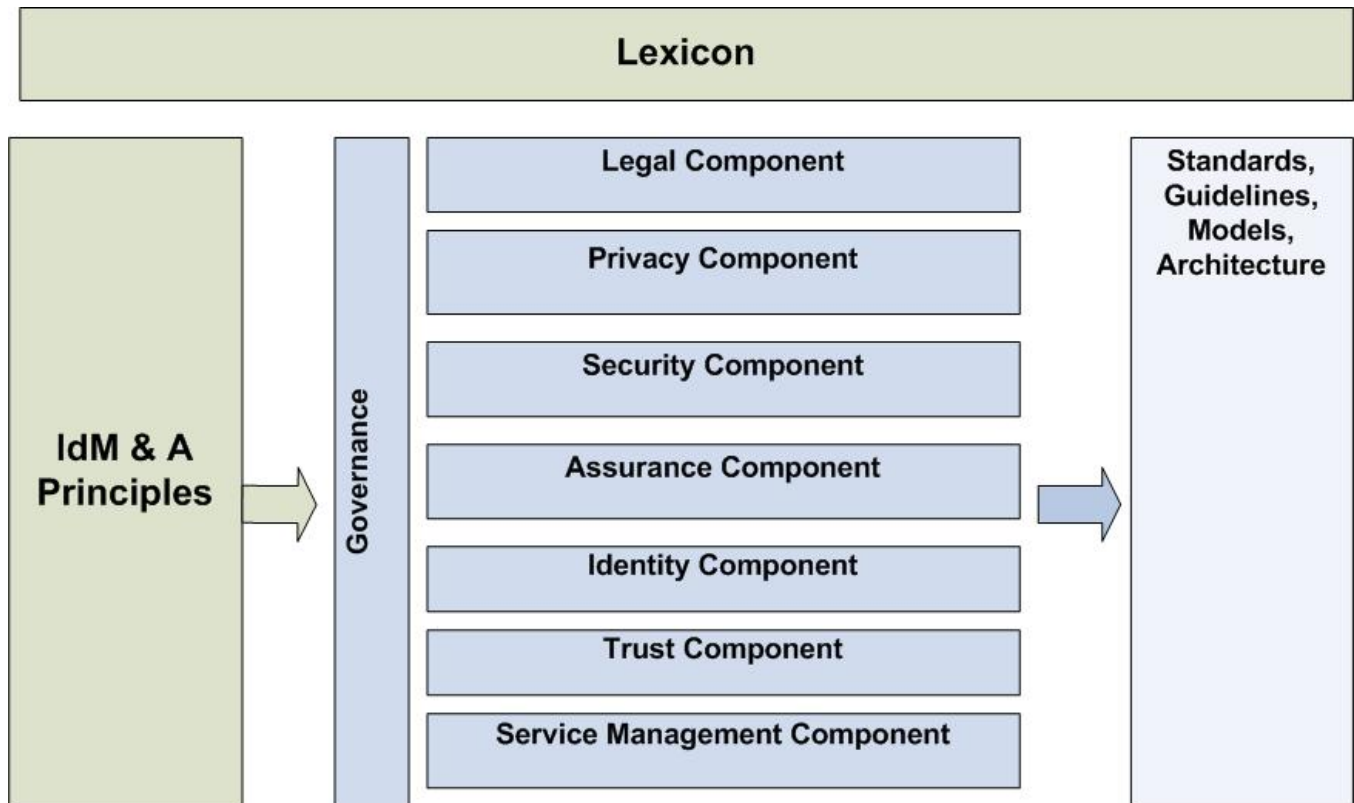
The first deliverable of the task force was the creation of a Pan-Canadian IdM&A Framework, which would represent the Task Force's recommended direction for the public sector in this area. Figure 2 illustrates the various components of the framework and depicts how key IdM&A principles should guide their development and content. It also shows how the framework components will guide the eventual development of common standards, models, guidelines and architecture.

IdM&A Principles. The Task Force has established a set of identity management norms and rules to guide and constrain the formulation of the IdM&A framework, standards, policies, models and solutions. The following eight principles represent a synthesis of the most important IdM&A concepts from a service delivery perspective:

1. **IdM&A requirements and uses should be justifiable and proportionate** to the task.
2. **Clients should have choice, consent and control** over their identity credentials and the uses to which they are put.
3. **Use of identity information should be limited** to a specific purpose and to justifiable parties.
4. **IdM&A processes should be client-focused and provide a consistent experience.**
5. **An IdM&A environment should recognize a diversity of identity contexts and systems.**
6. **IdM&A should be provided in a trusted and secure environment.**
7. **All IdM&A activities should be transparent and accountable.**
8. **IdM&A processes and methods should provide an enduring solution**, which is technologically neutral, flexible and scalable.

The Task Force recommends the endorsement of these principles.
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Figure 2: The Pan-Canadian IdM&A Framework



IdM&A Framework Components. The framework developed by the Task Force consists of seven components, governance, and a common lexicon:

1. **Legal Component.** This component sets out the laws, legislation, regulations and authorities that govern IdM&A across jurisdictions in Canada.
2. **Privacy Component.** This describes the context within which privacy requirements are applied to identity management. This component includes issues such as: Privacy Impact Assessments; notification and consent; limiting the collection, use and disclosure of identity information; client control of identity information; and accuracy, access and accountability. It also contains recommendations on the next steps needed for the development of standards and guidelines to ensure privacy in identity management services.
3. **Security Component.** This component sets the context within which security requirements are applied to identity management. The security component includes issues such as: setting up an environment that engenders trust; the adoption of common security standards (e.g., ISO/IEC 27002:2005); security threat and risk assessments; the predetermination of Transaction Trust Levels based on the security classification of information; processes for auditing and monitoring compliance and detecting and responding to incidents; and a robust and effective security awareness

training program. Standards for ensuring the security of identity management services would flow from this component.²

4. **Assurance Component.** This component describes the Identity Management, Authentication, and Authorization “chain of trust” and establishes that there are general gradients of assurance for each component of the chain. It proposes a Pan-Canadian Assurance Model that establishes different levels of identity assurance through a combination of different levels of registration and identity-proofing processes, and different levels of credential strength, all supported by a securely managed underlying infrastructure. Standards for acceptable registration channels, verification processes, evidence of identity and authentication methods would flow from this component.
5. **Identity Component.** This describes the different possible identity contexts or user groups (i.e., citizen, business, employee), and the identifiers or identity attributes that would apply to each. The identity component also addresses the different types and requirements for agency, dependents and designates/delegates. It establishes the foundation for a generic, semantic model of information associated with identity management services – essentially a conceptual data model. Semantic and syntactic standards on which the interoperability of identity management services would hinge would flow from this, as well as other policy and standards.
6. **Trust Component.** This sets out the essential requirements for the establishment of trust relationships between parties involved in IdM&A services (i.e., how one party can trust another party’s identity assertions). The component also describes the different trust roles involved in assuring identity claims and in issuing and accepting credentials (e.g., relying party, authoritative party). Standard templates and language for trust agreements could flow from this component, as could the development of transparent processes on defining liability, decision-making, and audit and compliance.
7. **Service Management Component.** This describes the context within which service requirements such as consistent user experience, intuitive and predictable processes, clear understandable language, and processes for persons with disabilities are applied to identity management. This component could lead to the development of common service and functional models and standards for clear interfaces and controls and options that enhance the client’s experience.

Governance. This is the body and rules that will govern the continued development of the IdM&A Framework and associated activities such as capacity building and development of pilot projects.

Lexicon. This presents common IdM&A terms and definitions, which can be used by all stakeholders involved in IdM&A, enabling greater mutual understanding of the activities being undertaken in each jurisdiction.

The Task Force recommends the adoption of the IdM&A framework and lexicon as the basis for further work on IdM&A by all jurisdictions.

² Documentation that places IdM&A security within the broader context of information security can be found in the IdM&A working papers, specifically the Detailed Security Narrative.

It further recommends that the Pan-Canadian IdM&A Framework and its components be developed, tested, and implemented. This will include the development of common or interoperable standards, models, processes, and architecture.

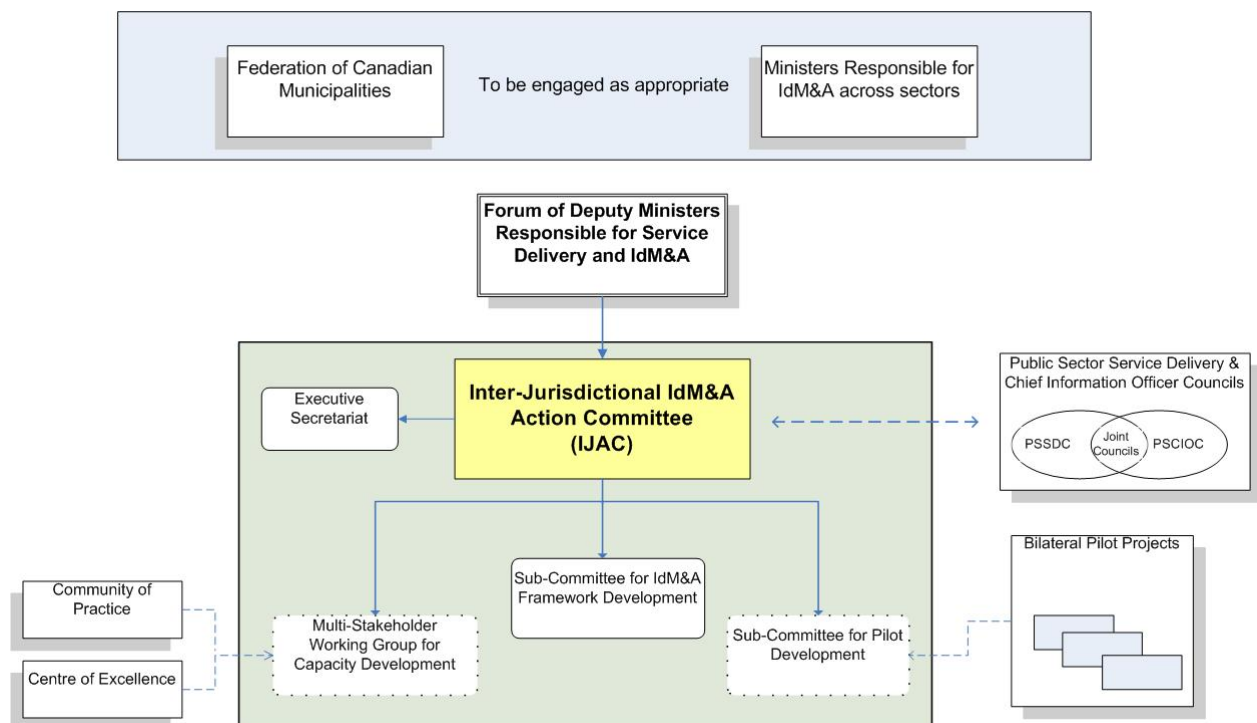
Deliverable 2: An IdM&A Governance Structure and Funding Model

To further develop the framework and implement the Task Force’s proposed IdM&A strategy, a governance structure and funding model are essential. This structure should be viewed as an incremental step towards a longer-term governance model.

An Inter-jurisdictional IdM&A Action Committee

The Task Force believes that the best approach to governance would be to create an Inter-Jurisdictional IdM&A Action Committee (IJAC), accountable to the Deputy Ministers responsible for Service Delivery and IdM&A. The IJAC would have overall responsibility for implementing the approved recommendations, strategy and action plan and the authority to develop standards (but not to impose them). As conceived at present, the IJAC would be supported by a Secretariat, which would co-ordinate activities and manage relationships and progress³. This structure is illustrated in Figure 3.

Figure 3. Inter-jurisdictional IdM&A Action Committee: Proposed Governance Structure



³ Neither the IJAC nor the proposed Sub-committee for Pilot Development would have authority over the initial set of pilots proposed by the Task Force. Pilot activity would be funded, controlled and managed exclusively by the jurisdictions participating in pilots through the use of bilateral agreements.

The IJAC would replace the current Task Force Steering Committee as the governance body responsible for the development of the Pan-Canadian IdM&A strategy and framework, and would be supported by three sub-committees or working groups:

- A Multi-Stakeholder Working Group for Capacity Development would be responsible for coordinating activities within and across jurisdictions associated with building capacity, increasing knowledge, and stimulating innovation with respect to IdM&A.
- A Sub-Committee for IdM&A Framework Development would coordinate activities related to validating and advancing the Pan-Canadian IdM&A Framework and would develop the standards and interoperable processes needed to enhance trust among jurisdictions, stakeholders and clients engaging in IdM&A processes.
- A Sub-Committee for Pilot Development. This sub-committee would be responsible for coordinating activities related to conceptualizing, developing and reporting on pilot projects whose main objective is to test and inform the Pan-Canadian IdM&A Framework, funding model, and next generation IdM&A processes and technologies. It would capture and leverage recommendations and lessons learned from early bilateral pilots in order to improve the IdM&A Framework and assist the development of future pilot projects.

The Task Force recommends the creation of an Inter-jurisdictional IdM&A Action Committee (IJAC).

Interim Governance to Maintain Momentum and Finalize Plans

It is important that this effort not lose momentum in the interim period before the IJAC can be created. To maintain momentum until the Deputy Minister's meeting in November, and to finalize details concerning the creation, budget and authority of the IJAC, the Task Force recommends that the current Steering Committee continue its governance during this period (i.e., from August to November 2007).

The Task Force recommends that the Task Force Steering Committee continue as an Interim Governance Committee until November 2007 to undertake the following activities in preparation for the Deputy Ministers' in-person meeting in Halifax in November 2007:

- Finalize the governance model and prepare a business case for the creation of IJAC.
- Draft strategic and operational plans that establish clear priorities for the ongoing work.
- Develop a sustainable funding model and budget.
- Develop terms of reference and rules of engagement.

Interim Funding Needs

The Task Force recommends short term funding of \$50,000 to support the interim work of Steering Committee to develop a detailed business case, funding model and strategic plan for IJAC, the governance body that will oversee the continued development and implementation of the Pan-Canadian IdM&A Framework.

Deliverable 3: An IdM&A Action Plan

The Action Plan outlines six concrete steps forward that will ultimately result in achieving the long term objective of implementing a Pan-Canadian IdM&A Framework in all jurisdictions in Canada.

1. **Address interim governance needs** by reconstituting the Task Force Steering Committee as an Interim Governance Committee, until November 2007, when the Inter-jurisdictional Action Committee for IdM&A (IJAC) will supersede it, working groups, and supporting Secretariat. Use these to begin a governmental dialogue process across jurisdictions.
2. **Complete the Pan-Canadian IdM&A Framework and its corresponding components, including the development of standards, guidelines and models including:**
 - Standards and tools for establishing trust between jurisdictions, defining liability, assessing risk, and monitoring compliance.
 - Standards or processes for improving data accuracy and the integrity of the information that will be used to make identification or authentication decisions.
 - Standards for establishing different levels of assurance.
 - Identity proofing standards including acceptable methods of verification, acceptable “shared secrets”, acceptable evidence of identity, and acceptable authoritative parties.
 - Standards on acceptable credentials and authentication methods required for different levels of assurance (including methods that are unacceptable either because they are too weak or too intrusive).
 - Standards for identifying and authenticating dependants, designates and delegates.
 - Guidelines for assessing the risk of typical transactions and services (based on the sensitivity of the information involved and other risk factors) and mapping these to assurance levels.
 - Guidelines for incorporating notice, consent and other fair information practices into IdM&A systems and processes.
3. **Develop pilot projects to test the Pan-Canadian IdM&A Framework.** Adopt an incremental approach to the implementation of pilot projects, where early pilot projects are smaller in scope and self-funded and governed. Jurisdictions involved in these early pilot projects would commit to applying the IdM&A Framework, report back on its usefulness, and make recommendations for improvement to the IJAC in a timely manner. The main objective of these early pilots will be to provide practical short-term results by testing one or more elements of the Framework, identifying gaps, building understanding, and informing governance. The experiences and lessons learned from the early pilot projects will help guide the further development and refinement of the IdM&A Framework, governance, standards, guidelines, models, and future pilot projects.

The Task Force recommends:

- The development and implementation of several self-funded and self-governed pilot projects to begin addressing significant IdM&A barriers and to verify the applicability of the IdM&A principles and Framework. The sharing of experiences and lessons learned from these early pilot projects between all jurisdictions would help guide the evolution of the Framework, development of standards, and future pilot projects.
- The conceptualization and development of a broader pan-Canadian pilot project with all levels of government participating, whose prime objective is to test the complete IdM&A Framework, a sustainable funding model and next generation IdM&A processes and technology.

4. **Build Greater IdM&A Capacity.** There is a great need for deeper IdM&A skills and knowledge in most jurisdictions. The development of this knowledge and capacity should take place in parallel with other IdM&A activities.

The Task Force therefore recommends:

- The recognition of IdM&A as its own discipline.
- The creation of a Pan-Canadian IdM&A Community of Practice.
- The identification of IdM&A champions in each jurisdiction to promote the value of, and vision for, a Pan-Canadian approach to IdM&A.
- The integration of IdM&A curriculum in education and training programs for employees.
- The increased exchange and sharing of information, ideas, new technologies and solutions, use cases and best practices among jurisdictions.
- The eventual development of an inter-jurisdictional Centre of Excellence for IdM&A.

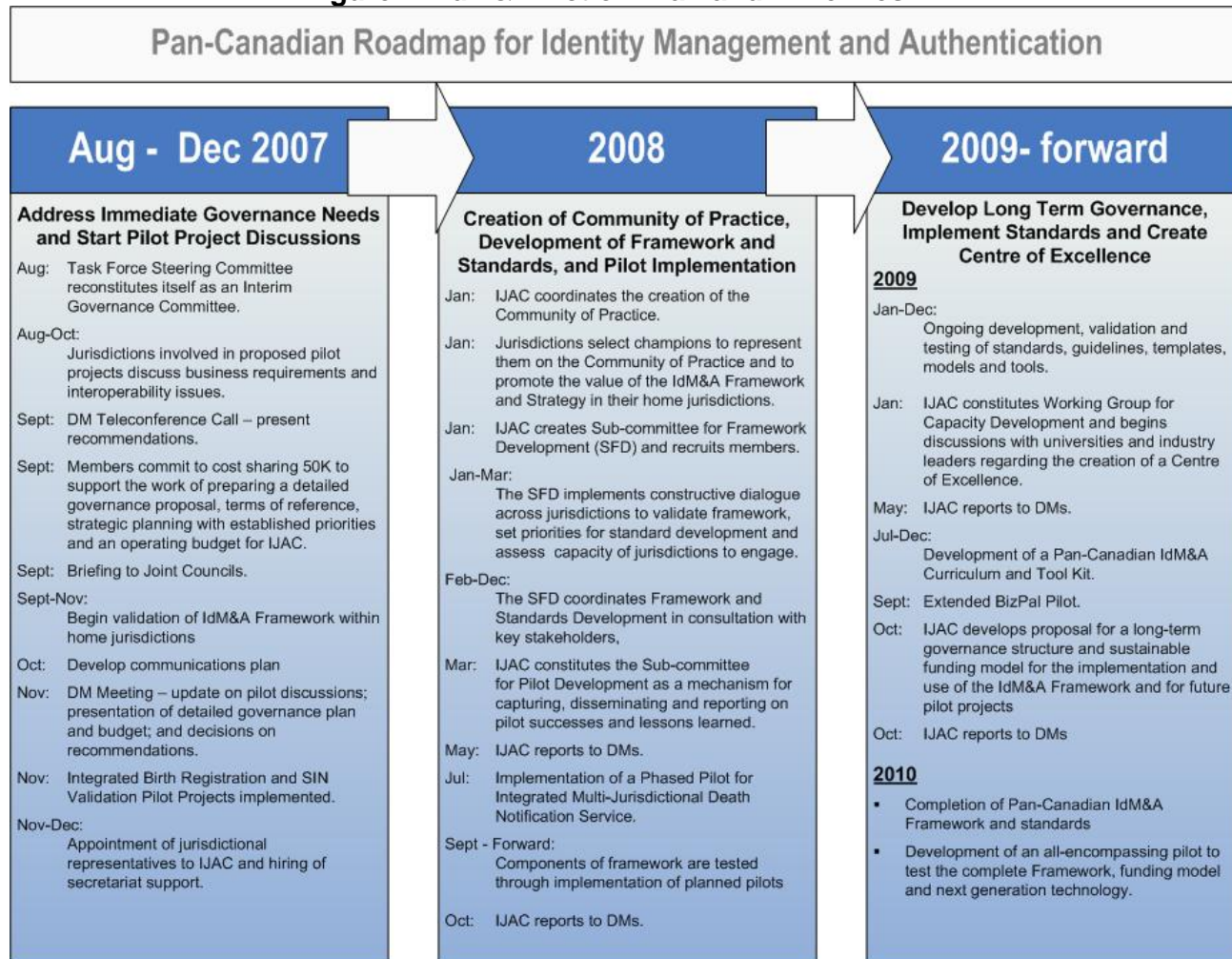
5. **Ongoing stakeholder engagement.** Throughout the time period of this action plan, plans should be developed, implemented and coordinated to engage stakeholders and the general public, to develop awareness of IdM&A issues and to help inform the development of the IdM&A Framework.

The Task Force recommends:

- Developing a constructive engagement process to enable key government and other stakeholders to validate the proposed Pan-Canadian IdM&A Principles and Framework and to increase general awareness of IdM&A issues and possible solutions.
- Introducing a general public awareness process to build client knowledge, trust and comfort with IdM&A processes and to increase the demand for multi-channel cross-jurisdictional service delivery initiatives that utilize consistent and secure IdM&A processes.

Figure 4 summarizes these action items and presents proposed timelines for their implementation.

Figure 4. IdM&A Action Plan and Timelines



The Task Force recommends the adoption of the Action Plan to implement its proposed IdM&A strategy and framework.

Conclusion and Key Decisions

The focused attention that the Task Force has been able to bring to the challenges associated with the development of a Pan-Canadian strategy and framework for IdM&A has significantly advanced our governments' understanding of the issues that need to be addressed and the decisions that now need to be made. The Deputy Ministers' decision to collaborate on IdM&A and devote dedicated resources to this issue has resulted in:

- A Pan-Canadian vision and value proposition for IdM&A.
- A set of Pan-Canadian IdM&A Principles.
- A high-level Pan-Canadian IdM&A Framework.

- A proposal for an interim governance structure.
- An action plan for moving forward collaboratively to implement the IdM&A Framework.

These represent the foundational work needed to begin developing standards and harmonizing service delivery processes across jurisdictions.

As part of its work, the Task Force has consulted with and engaged many government stakeholders. However, the issues involved are complex and more work needs to be done to gain agreement on the direction and action plan outlined in this report. It will be a challenge to bring together multiple Deputy Ministers across sectors and jurisdictions that have responsibility for IdM&A, particularly at the federal level. In addition, further development of the governance and funding model is needed.

In order not to lose momentum, the Task Force recommends that the Deputy Ministers make the following key decisions:

1. **In September, approve continued work of the Task Force Steering Committee until November 2007 and funding of \$50,000.** This will enable the development of a business case and funding model for the proposed Inter-Jurisdictional Action Committee (IJAC), to be completed by the time of the planned Deputy Ministers' meeting in November 2007. It will also provide governance for further activities such as consultations and the finalizing of business requirements for proposed pilot projects
2. **In November, approve the proposed IdM&A vision, value proposition, principles, and framework** and the Task Force's recommendations for their further enhancement and use.
3. **In November, approve the creation of the Inter-Jurisdictional Action Committee (IJAC), the proposed strategy and action plan for next steps.**

With this Task Force, jurisdictions across Canada have made a good start in laying the foundation for how they can work together to develop interoperable IdM&A processes that will streamline service delivery across departments and jurisdictions. Our Deputy Ministers must now decide if this will be the basis upon which further inter-jurisdictional IdM&A work should proceed.