



Service | Innovation | Value

Telecommunications Transformation Program Converged Communications Services

Industry Day



September 24, 2013



Shared Services
Canada

Services partagés
Canada

Canada

Converged Communications Services Industry Day

Industry Day Objectives

- Share plans with industry suppliers and engage in a dialogue regarding Converged Communications Services and Service Delivery Options
- Explain the proposed “Collaborative Procurement Solutions” approach
- Address the Cyber Security Supply Chain Threat
- Elicit feedback from industry on the Deployment Models, Service Bundling, Contract Period and Pricing Options



Converged Communications Services Industry Day

Agenda

TIME	PRESENTER	DESCRIPTION
1:00 - 1:05 pm	Marcel Bouliane <i>Director, Telecommunications Transformation Program</i>	Opening Remarks & Industry day Objectives
1:05 – 1:50 pm	Benoît Long <i>SADM, Transformation, Service Strategy & Design</i>	SSC Transformation Overview
1:50 - 2:35 pm	Michel Fortin <i>DG, Telecommunications Transformation Program</i>	Converged Communications Services 1. Desktop Communications and Conferencing Services
2:35 – 2:50 pm	Break	
2:50 – 3:30 pm	Michel Fortin <i>DG, Telecommunications Transformation Program</i>	<i>Continued...</i> 2. Contact Centre Infrastructure Services
3:30 - 4:00 pm	Les Wong <i>A/Director Strategic Relationships Office Communications Security Establishment Canada</i> Raj Thuppal <i>DG, Cyber and IT Security Transformation Program</i>	Supply Chain Integrity
4:00 - 4:30 pm	Alain Bédard <i>Manager, Telecommunications Systems Division, Procurement and Vendor Relationships</i>	Procurement Approach
4:30 – 5:00 pm	Marcel Bouliane <i>Director, Telecommunications Transformation Program</i>	Questions and Answers Recap / Closing Remarks



Telecommunications Transformation Program Converged Communications Services and Contact Centre Infrastructure Services Industry Day

Transformation Overview


Benoît Long
Senior Assistant Deputy Minister
Transformation, Service Strategy and Design

September 24, 2013



Shared Services Canada (SSC) Transformation Overview

Agenda

- 
- Industry Day Objectives / Key Messages
 - SSC Background, Strategic Vision and Principles
 - Transformation Objectives and Background
 - Transformation Timeline and Approach
 - Stakeholder Engagement
 - Wrap up

Converged Communications Services Industry Day

Purpose

- To provide **background** on telecommunications transformation and converged communications
- To **continue a dialog** with Industry to learn what are the best and most innovative options available in the market today that will support the Government of Canada's requirements for converged communications
 - Obtain industry input on the strategy for:
 - deployment models
 - service bundles
 - length of contract
 - pricing model
 - Advice that could lead to better pricing (based on past experience)
 - Address questions regarding process
 - Set the stage for the one-on-one engagements

SSC Transformation Overview

Strategic Vision and Principles

The Government of Canada will consolidate data centres and networks, transform telecommunications services, centralize their administration, and rationalize service delivery to achieve greater efficiencies, reduce costs, minimize risks, and improve security and service quality.

IMPROVE SERVICE QUALITY

- Improve levels of service and security for all
- Modernize infrastructure and platforms
- Increase system availability, reliability, robustness and scalability
- Reduce dependence on physical location
- Implement ubiquitous personal mobility

MAXIMIZE EFFICIENCIES

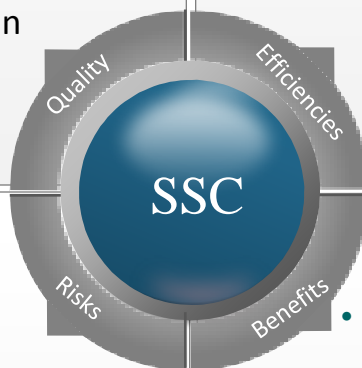
- Consolidate and converge to reduce duplication of infrastructure
- Standardize infrastructure and operations
 - Determine appropriate level of private sector engagement
 - Make effective use of shrinking information technology (IT) labour force

MINIMIZE RISKS

- Fewer and better quality facilities
- Increase information security
- Power supply diversification
- Centralize planning and recapitalization
- Address aging IT infrastructure
- Examine industry investment and risk sharing

ADDITIONAL BENEFITS

- Significant environmental benefits
 - Reduce power demand
 - Reduce greenhouse gas emissions (cleaner power); reduce e-waste
- Enable Workplace 2.0
- Reduce travel costs (videoconferencing)



SSC Transformation Overview

Transformation Objectives

SAVINGS



Transformation will realize material cost savings and avoid future costs.

SERVICE



Transformation will match service levels to partner priorities.

SECURITY



Transformation will provision a secure environment to meet program needs.

SSC Transformation Overview

EMAIL

2013-2014

2014-2015

2015 and ongoing

Strategy Development,
Business Case and Plan

Build and Migration to New
Service (Waves 0 and 1)

Migration to New
Service (Waves 2 and 3)

WORKPLACE TECHNOLOGY DEVICES

2013-2014

2014-2015

2015-2020

Service Strategy, Pilot, and
Preliminary Business Case

Current State, Business Case
and Plan

Implementation

DATA CENTRES

2012-2013

2013-2020

Current State, Business Case,
Detailed Inventory and Plans

Data Centre Foundations:
Facilities, Platforms and Infrastructure

Migration to New Data Centres
(Multiple Waves)

TELECOMMUNICATIONS

2012-2013

2013-2020

Current State, Business Case,
Detailed Inventory and Plans

Inter-building (wide area network [WAN]) - integrated and aligned with data centre consolidation plan

Intra-building (local area network [LAN]) - integrated and aligned with data centre consolidation plan

Telecommunication services transformation – data, voice, video and call centre services

CYBER AND IT SECURITY

2011-2012

January – April 2012

2013-2014 and ongoing

Canada Cyber Security Strategy

Security Operations Centre

Supply chain integrity process and infrastructure cyber recall system

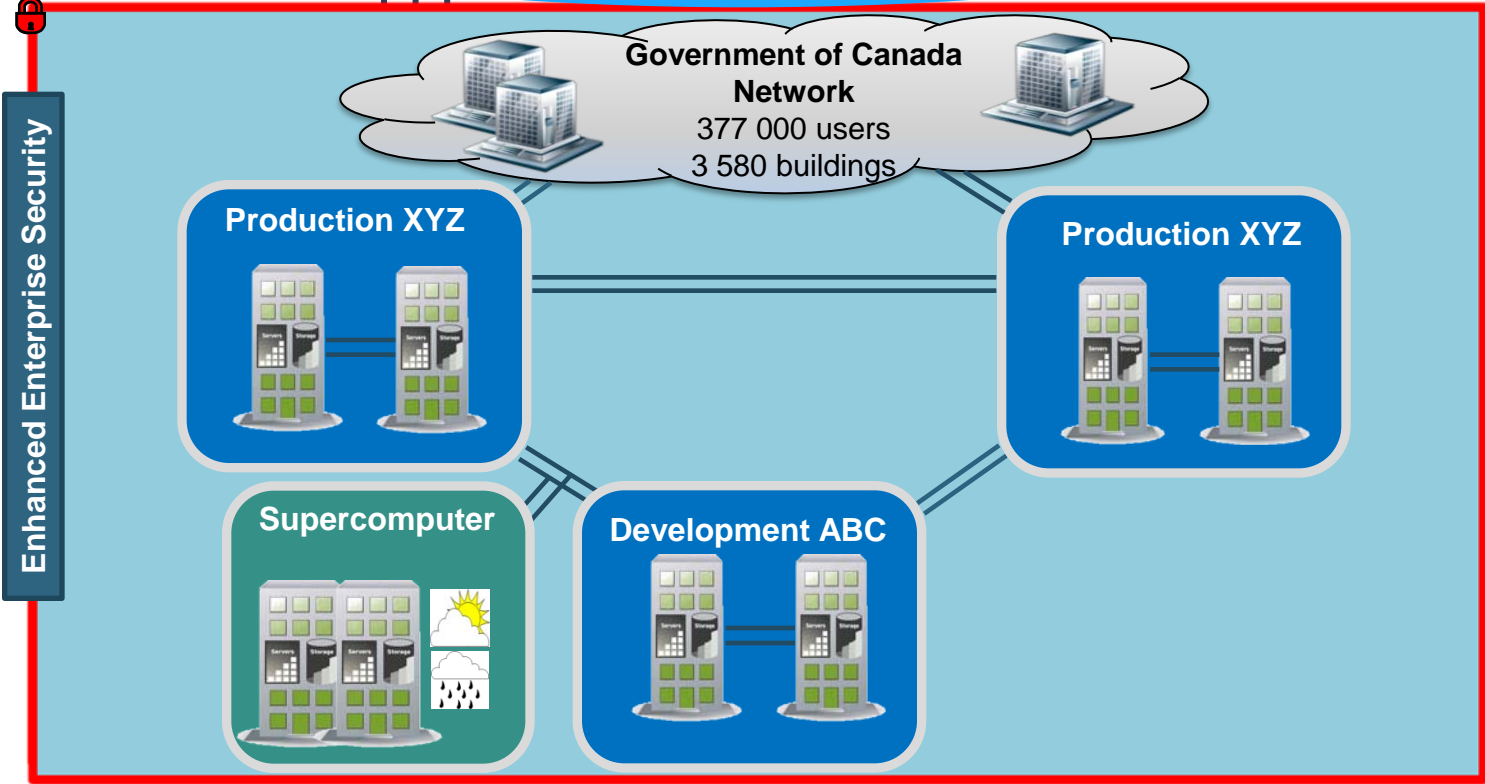
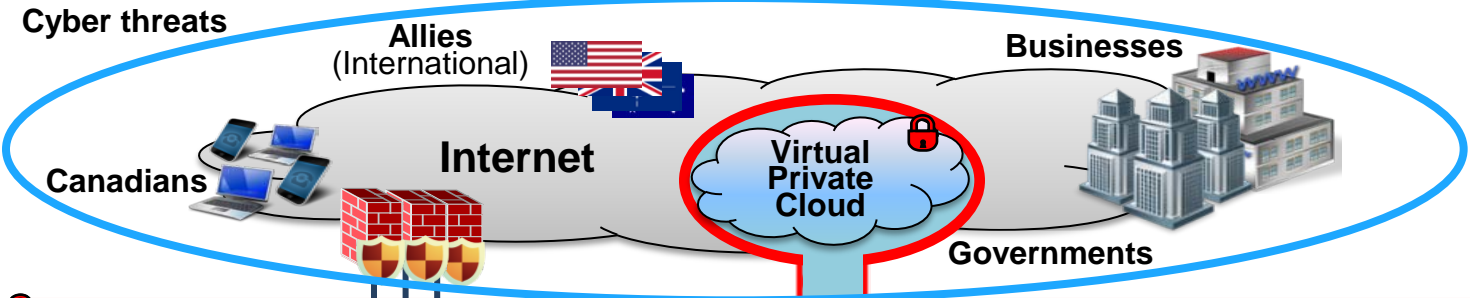
Government of Canada Secret infrastructure

IT Security Services

SSC Transformation Overview

Background - Conceptual End-state

Simpler, Safer and Smarter



SSC Transformation Overview

Transformation Schedule

Sep. 2012

Dec.

Mar. 2013

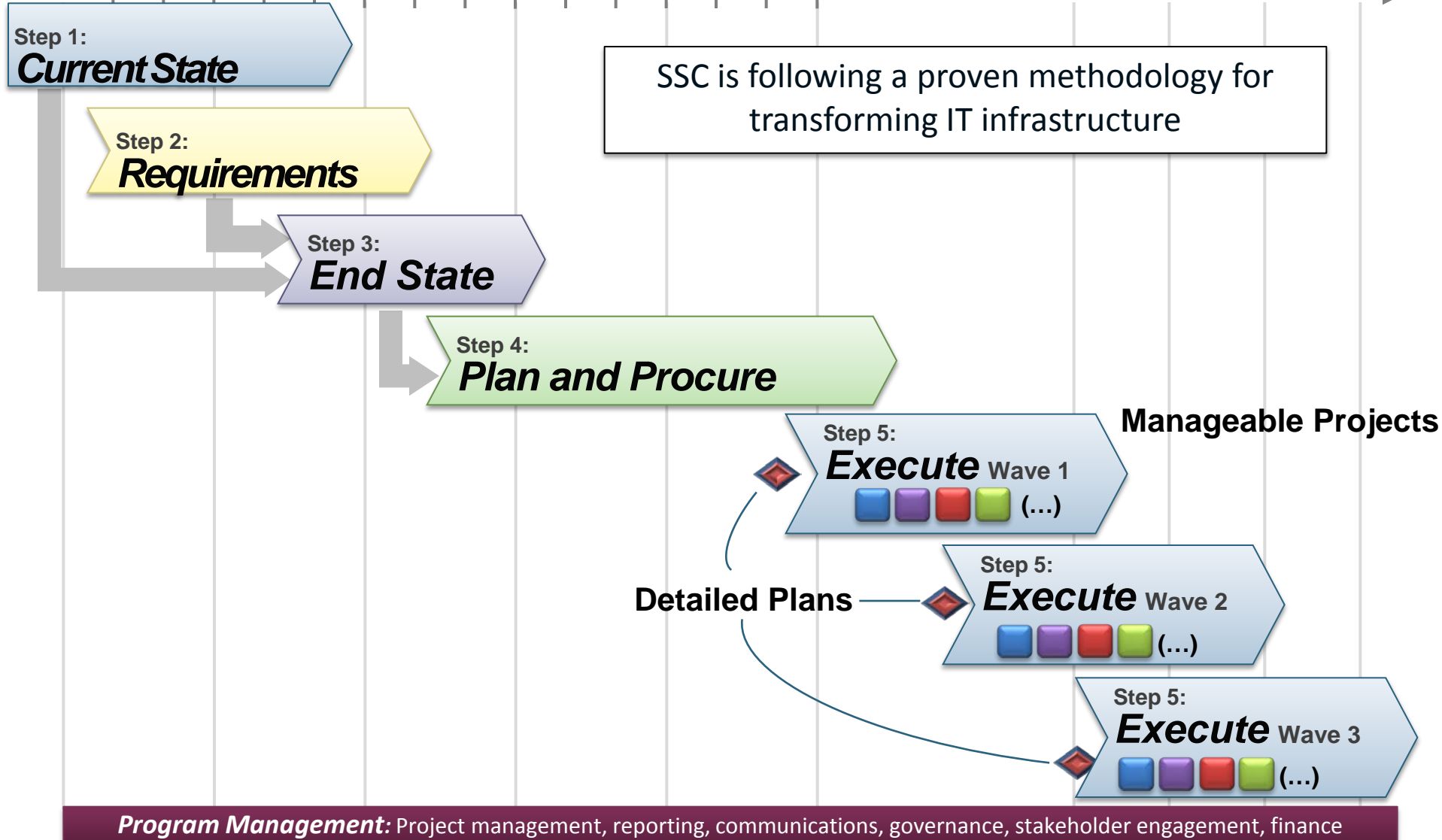
Mar. 2014

Sep.

2016

2018

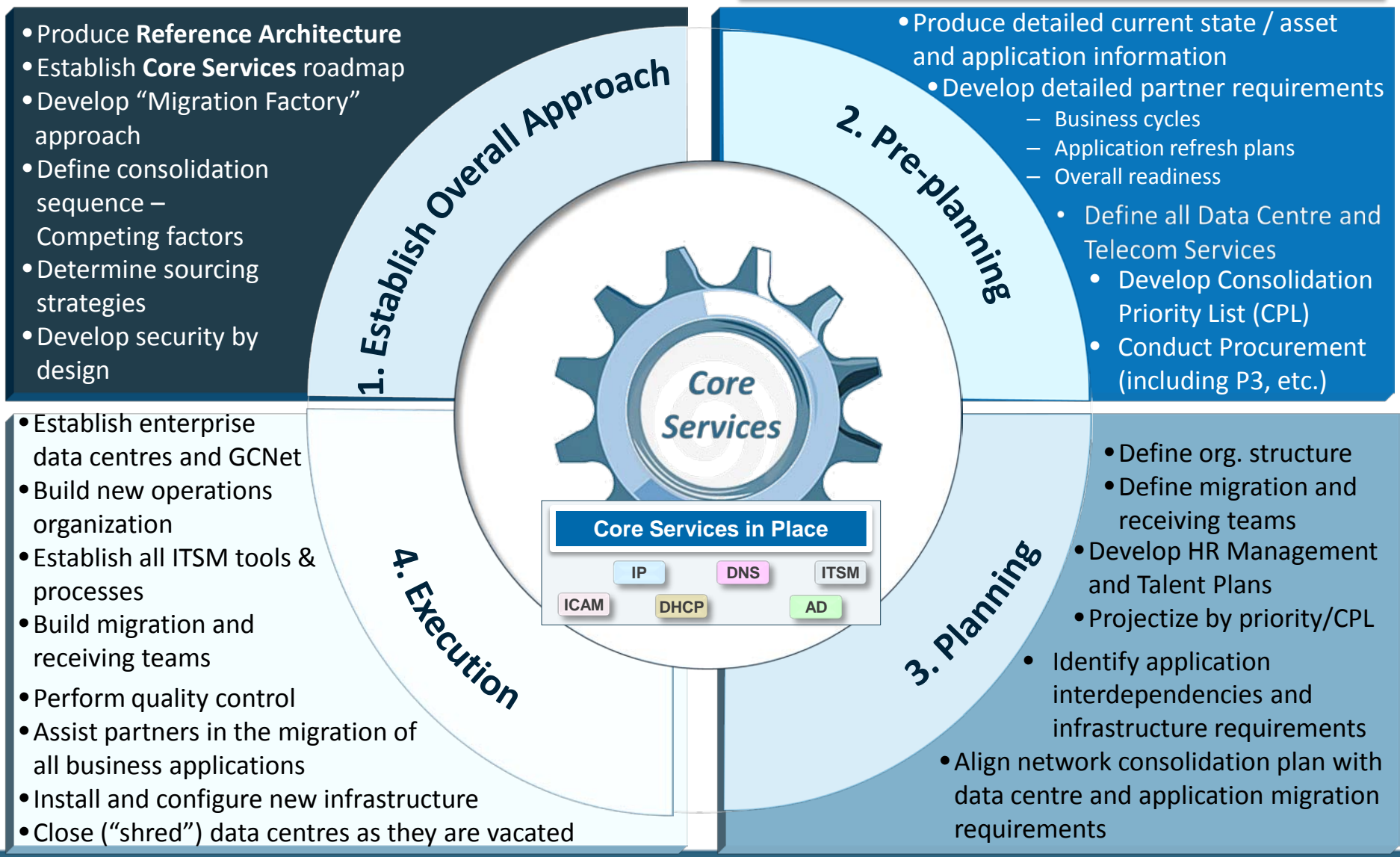
2020



SSC Transformation Overview

Transformation Phased Approach

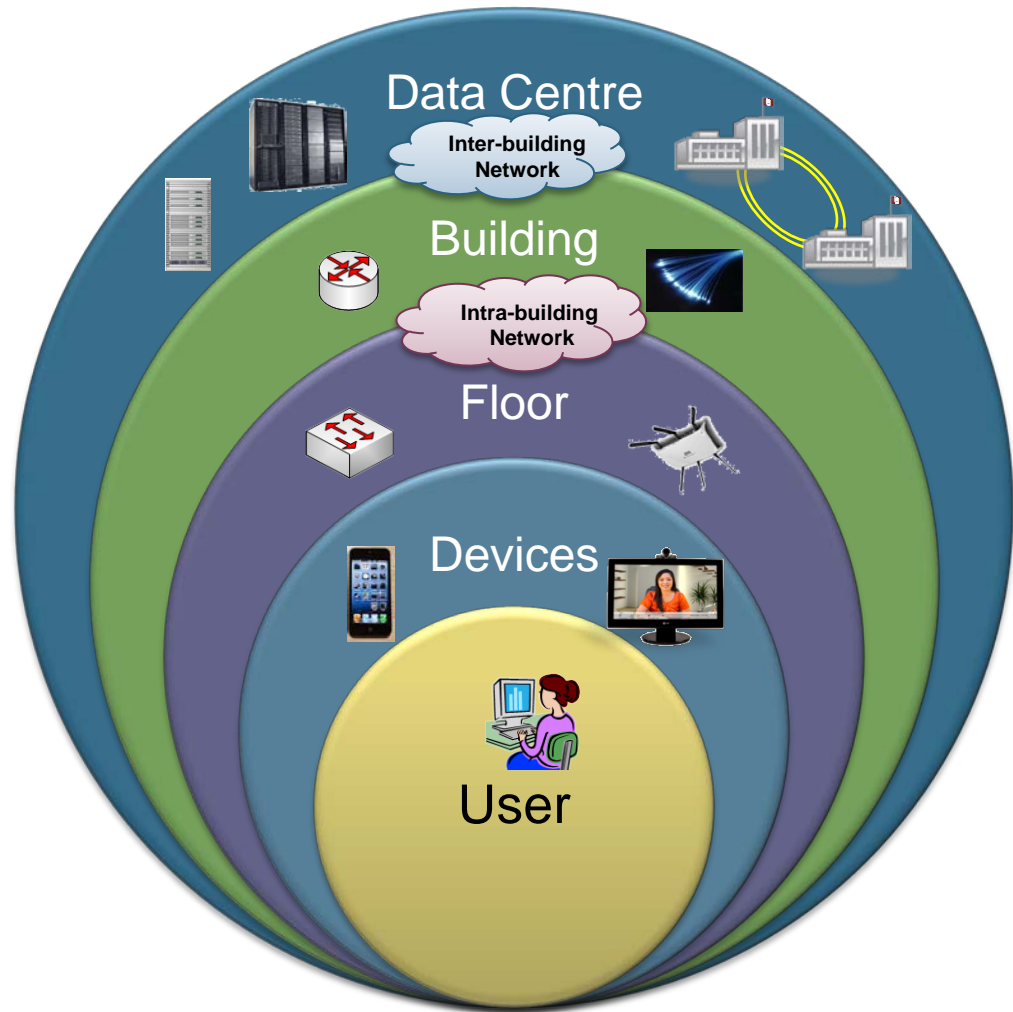
UNIT OF TRANSFORMATION WORK:
Data Centre Telecommunications
Consolidation (DCC): Transformation Program (TTP):
Server **Building**



SSC Transformation Overview

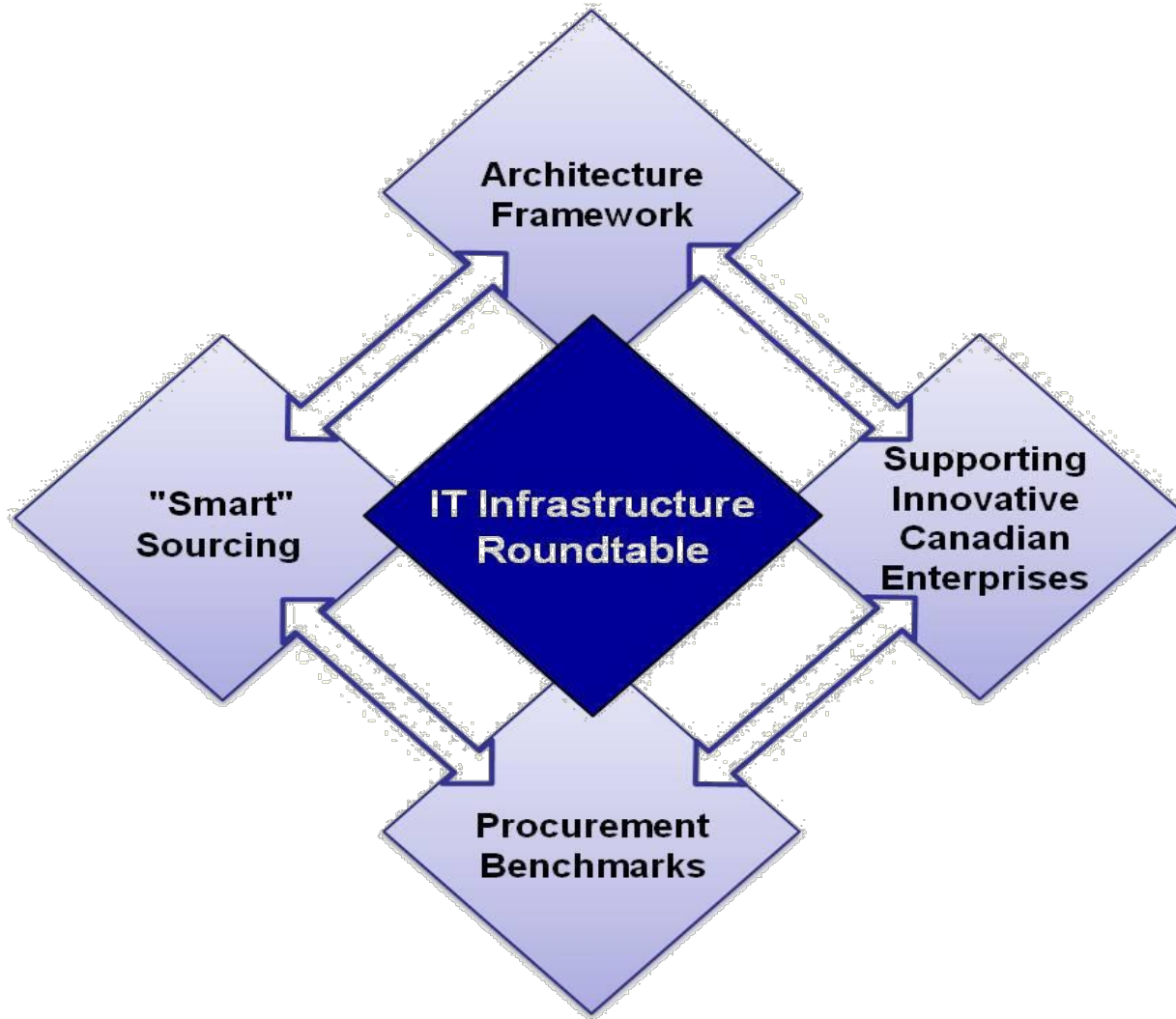
User-centric Approach to Planning/Execution

- Overall planning and execution framework is based on user-centric approach
- Project for each of the 3 580 buildings
- 377 000+ users located in 1 400+ different cities/towns



SSC Transformation Overview

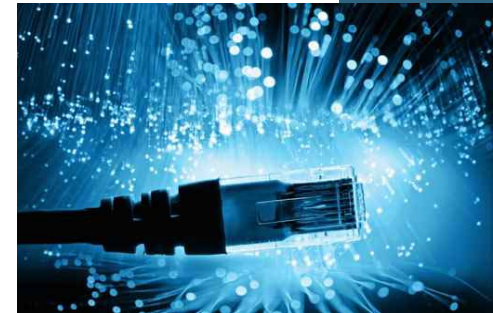
Stakeholder Engagement – IT Infrastructure Roundtable and Advisory Committees



Telecommunications Transformation Program

What is the TTP?

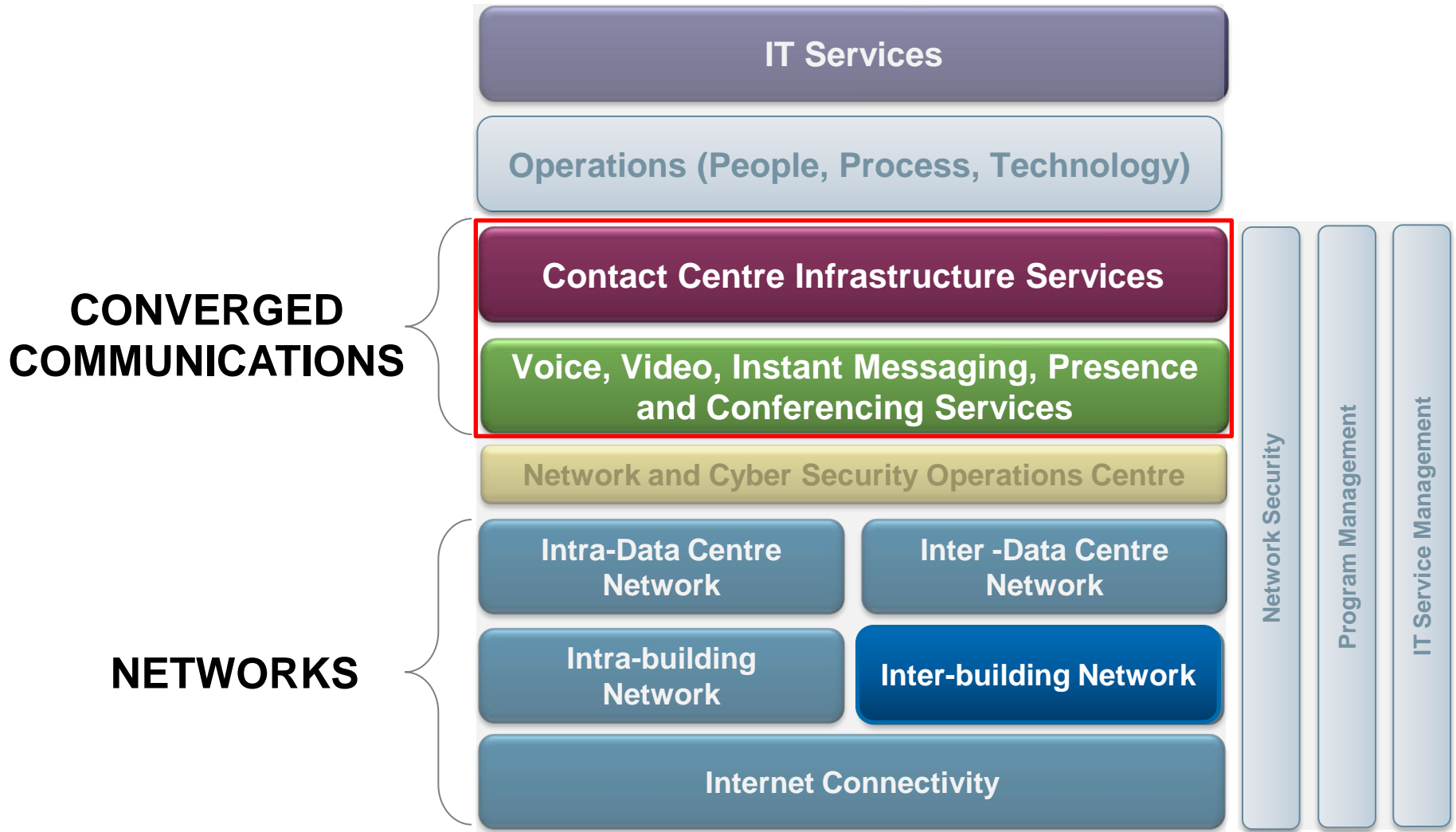
- The TTP is responsible for the following:
 - The transformation, planning and sourcing of telecommunications services for the Government of Canada; and
 - The strategies for delivering those services, with a view to centralize their administration, rationalize service delivery to achieve greater efficiencies, reduce costs, minimize risks, and improve security and service quality.
- The TTP is comprised of many service elements, including network services, **Desktop Communications**, **Conferencing** and **Contact Centre Infrastructure Services**.
- One of the main objectives of the TTP is to design and build an integrated telecommunications network to support Government of Canada operations.



Telecommunications Transformation Program

Conceptual Framework

FRAMEWORK ELEMENTS



Desktop Communications and Conferencing Services

Engaging Industry for Feedback

Approach:

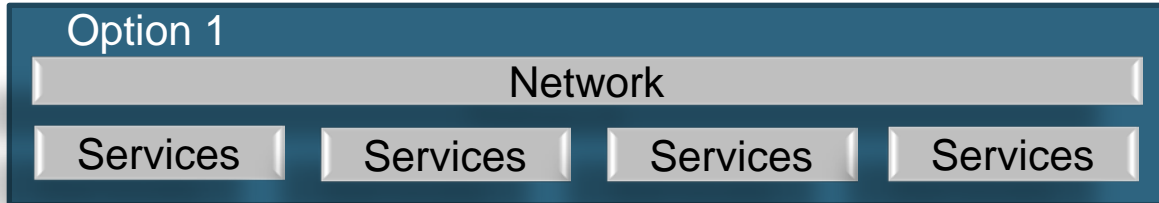
- Allow for an exchange of information through discussion (during one-on-one sessions) with telecommunications experts that will ultimately inform telecommunications transformation strategies and procurement planning.
- Continue previous architecture engagement with industry experts on converged communications services held over three sessions:
5 April, 3 May, and 3 June, 2013
- Provide suppliers with the opportunity to share their knowledge with the Government of Canada on the following discussion topics (detailed slides to follow):
 - 1. Deployment Models**
 - 2. Service Bundling Options**
 - 3. Contract(s) Period**
 - 4. Pricing Models**

Telecommunications Transformation Program

Converged Communications Potential Deployment Models

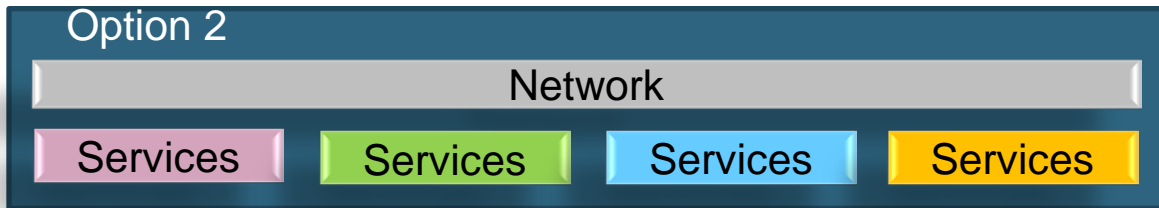
Presented at
AFAC

Option 1



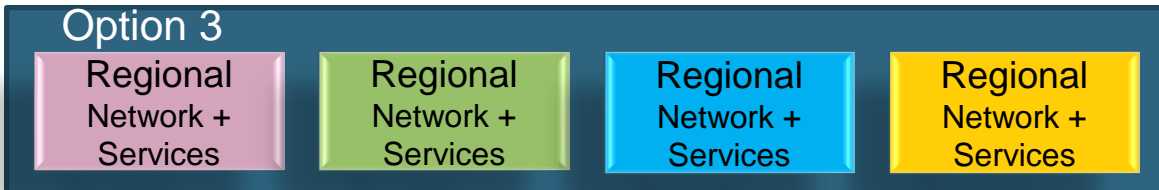
- One winner takes all
- Network and Services

Option 2



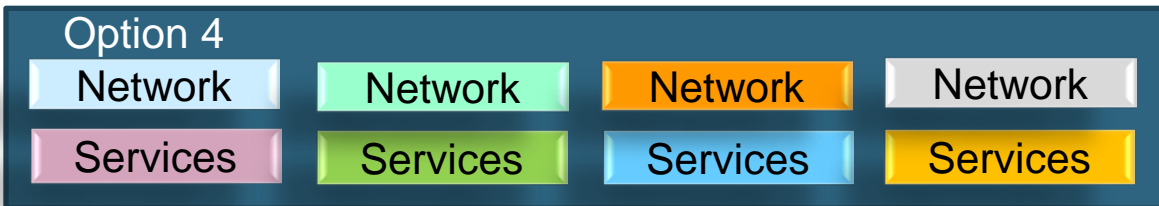
- Network single provider
- Services multi-provider

Option 3



- Regional integration of Network and Services

Option 4



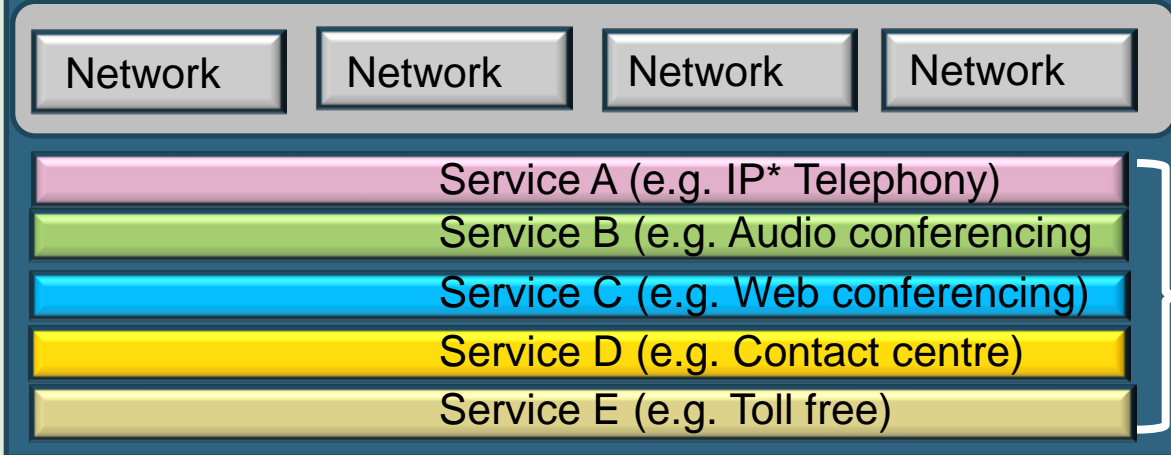
- Network multi-provider
- Services multi-provider
- Most complex to manage

Telecommunications Transformation Program

Converged Communications Potential Deployment Models (cont'd)

Presented at AFAC

Option 5



Recommended option



- Network multi-provider (potentially single provider)
- Services single provider for each service type (e.g. Voice over IP [VoIP], contact centre, etc.)
- With various bundling combinations possible

Option 6



- Network multi-provider
- Services single provider for integrated national converged communications service (voice, video and contact centre)

*IP: Internet Protocol

Telecommunications Transformation Program

Converged Communications Service Bundling

Recommended
by AFAC

SERVICE BUNDLE 1 – DESKTOP COMMUNICATIONS

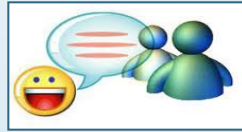
IP Telephony



Desktop Video (client)



Instant Messaging and Presence



SERVICE BUNDLE 2 SERVICE BUNDLE 3

Web, Audio and Videoconferencing



Contact Centre Infrastructure



Enterprise Network Convergence

Government of Canada
Unified Capabilities



Enhance capabilities of partner departments to better serve Canadians

Questions?
(for suppliers only)





Service | Innovation | Value

Converged Communications Services Industry Day

Michel Fortin
Director General, Telecommunication Transformation Program
Transformation, Service Strategy and Design

September 24, 2013



Shared Services
Canada

Services partagés
Canada

Canada

Objectives

- Provide an overview of the key components of converged communications services
 - Part 1 – Desktop communications and conferencing services (bundles 1 and 2)
 - Part 2 – Contact centre infrastructure services (bundle 3)
- Highlight considerations for future service provision of these services
 - Deployment model considerations
 - Potential bundling
 - Contract period
 - Pricing model options
- Solicit feedback from industry



Desktop Communications and Conferencing Services



Desktop Communications and Conferencing Services:

What do they consist of?

- **Internet Protocol (IP) Telephony:** connectivity that uses the IP packet-switched connections to exchange voice information.
- **Instant Messaging (IM) and Presence:** virtual or real-time discussion platform and a locator tool to enable you to see if people are logged in and available on the network.
- **Desktop Video (Client):** desktop videoconferencing (VC) service applications on computing devices (e.g. desktop computers, laptops, tablets, smart phones).
- **Conferencing Services (Audio, Video and Web):** a complete portfolio of teleconference and integrated Web conference services, available to Government of Canada (GC) and outside participants, 24x7, from any telephone or Internet access point world-wide.

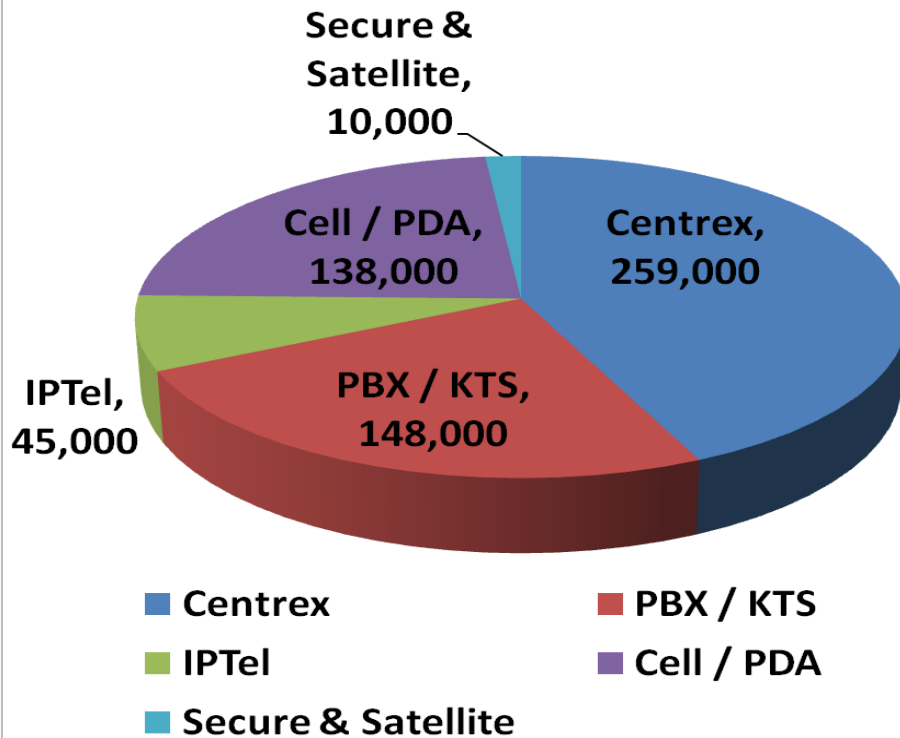


Desktop Communications and Conferencing Services

Current State

IP TELEPHONY, INSTANT MESSAGING AND PRESENCE

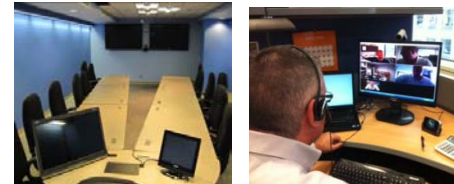
- 600 000 phones or phone lines
- 1 000+ legacy time-division multiplexing (TDM) private branch exchanges (PBX) and key systems (most 20+ years old)



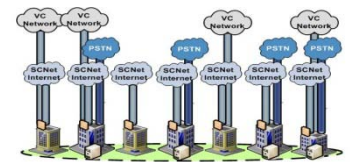
Note: All numbers are approximate

CONFERENCING

3 000 VC Boardrooms + Several Desktop VC



86 VC Bridges and Associated Infrastructure



Web Conferencing

- 2M minutes
- 30 000 participants
- 7 000 sessions / month



Audio Conferencing

- 10M minutes / month
- 68% toll-free



Desktop Communications and Conferencing Services

Current State Deployment Models

Within the 43 Shared Services Canada (SSC) partners, there are currently three deployment models in place for desktop communications and conferencing services.

1 Supplier-Hosted Services

- Centrex and cellular services
- Audio and Web conferencing
- Serves the largest portion of SSC partners on common supplier platforms

66%
of installed base

2 GC-Hosted Supplier Managed

- Integrated data voice services (IDVS) and Global Defense Network Services (GDNS) contracts
- Partner specific contracts
- Does not leverage shared common infrastructure

2%
of installed base

3 GC-Hosted Co-Managed

- Integrated communications supply services (ICSS)
 - Partners leverage shared common infrastructure
 - Centralized data centre-centric architecture and building-centric service delivery model
- Partner-specific non-shared legacy infrastructure (TDM and IP)

32%
of installed base

Note: Data is based on fiscal year 2013-2014 snapshot.

Desktop Communications and Conferencing Services

End State Requirements

- Available anytime, on any device, from anywhere
- Device-agnostic with intuitive look and feel
- Intuitive, simple user interface that is presence and directory-enabled
- Secure up to a Secret level of sensitivity:
 - Designated domain (up to Protected A)
 - Classified (Secret)
- Supports government to government (G2G), government to business (G2B) and government to public (G2P) multi-modal communications



Desktop Communications and Conferencing Services

Deployment Model – Considerations

Discussion

Topic

1

1. What are the **benefits, technical challenges, requirements** and **recommended pricing model** for successful deployment and ongoing support of each deployment model?
 - Taking into consideration that the application and transport layer (network) services may be under separate contracts.
2. Should local area network (LAN)/wireless LAN (WLAN) managed services be bundled with hosted desktop communication services? Cost and benefits?

1 *Supplier-Hosted Services*

2 *GC-Hosted Supplier Managed*

3 *GC-Hosted Co-Managed*

Desktop Communications and Conferencing Services

Potential Service Bundling

Discussion
Topic

2

1. Do we have the correct bundles?

BUNDLE 1

IP Telephony



Hard and soft phones procured but not maintained in service. Includes general telephony features (e.g. voice mail).

Desktop Video (client)



Includes the desktop VC client. Note: Desktop cameras not maintained in service.

Instant Messaging & Presence



Presence integrated in service for both voice and VC.

BUNDLE 3

Contact Centre Infrastructure and Toll-Free Services

To be discussed later in this presentation

BUNDLE 2

Web, Audio and VC



Multi-point VC Bridging Service: Must support multi-vendor VC end-user devices and integrate with audio and web conferencing services.

Audio-conferencing: Must bridge both internal and external calls.

Web-conferencing: Functionality includes multi-point whiteboarding and online chat.

BUNDLE 4

Fax Server Services

Maintenance of end-user devices not included in service.

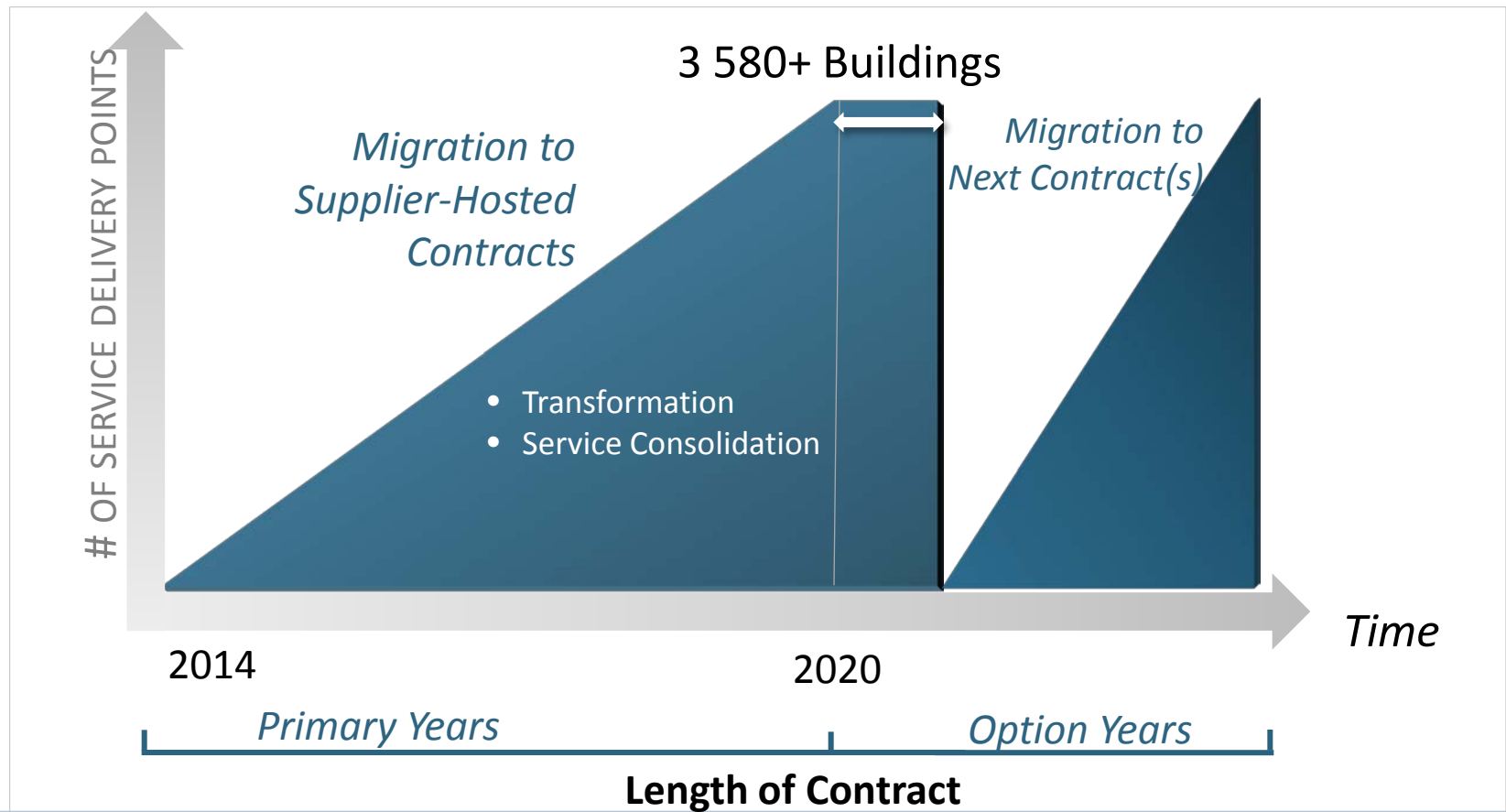
Desktop Communications and Conferencing Services

Contract Period

Discussion
Topic

3

- Recommended contract length(s) (including option years)?



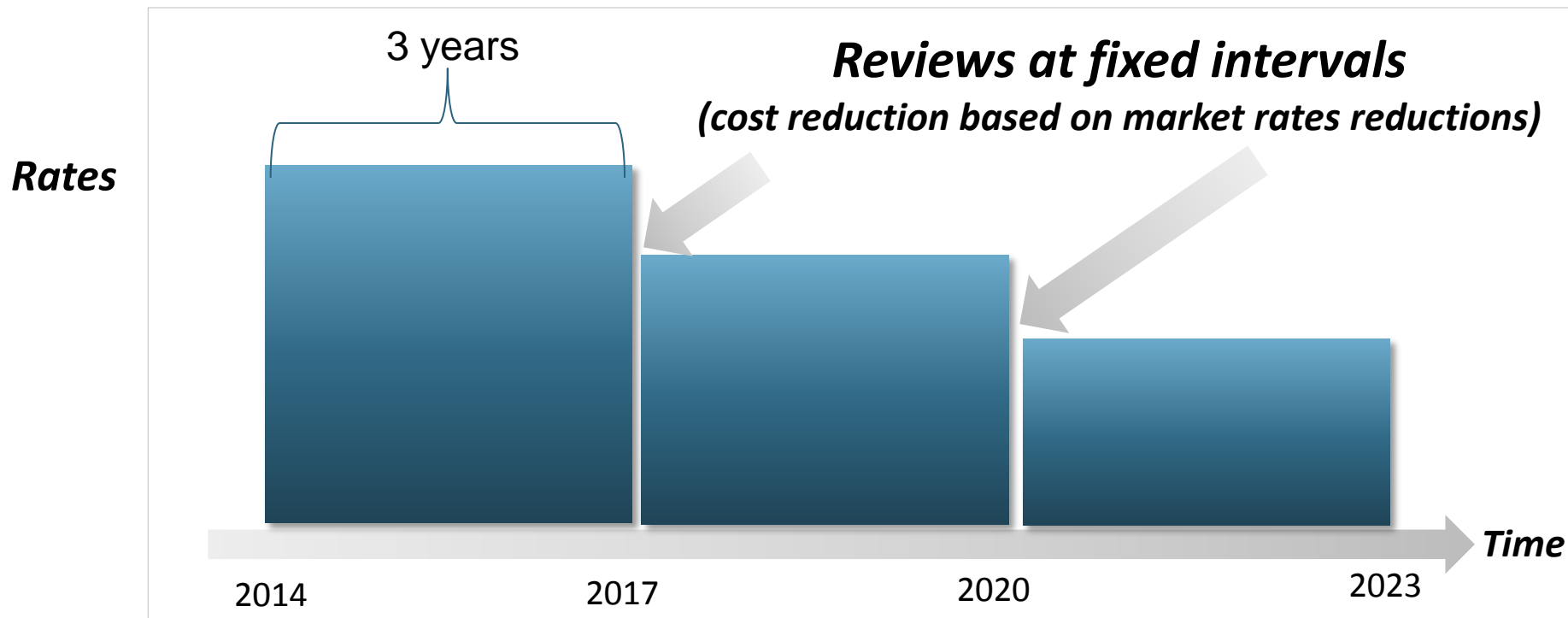
Desktop Communications and Conferencing Services

Pricing Model Options

Discussion
Topic

4

- Numerous pricing model options possible (fixed, variable, etc.)
- Are pricing reviews at fixed intervals (based on market benchmarks) over the period of contract(s) advisable?
- What are the factors that drive the rates up?



Desktop Communications and Conferencing Services

Questions for Industry Feedback

OPERATIONAL/TECHNICAL:

1. What is your preferred approach to support desktop communications services from a planning, implementation and support perspective in the case where the GC provides and manages the end-user devices? Is the approach different in the case where the GC outsources the management of end-user devices?
2. What factors should be considered in implementing the services, given that user authentication and credential management will be done through a GC-provided enterprise identification, credential and access management service?
3. What are the technical challenges requirements and recommended pricing model for successful deployment and ongoing support of a supplier-hosted converged communications services model?
4. Which desktop communications services can be deployed on a wide area network which is not provided by the same service provider? What are some of the considerations in deploying a multi-vendor environment? Do you currently deliver services to other large organizations in this manner?

Desktop Communications and Conferencing Services

Questions for Industry Feedback (cont.)

OPERATIONAL/TECHNICAL (continued):

5. Should LAN/WLAN services be bundled with desktop communications services?

6. What are the operational and support considerations required to ensure end-to-end visibility on the following:
 - Day-to-day operations and support/maintenance;
 - Incident, configuration, bandwidth and quality of service management;
 - Process flow in a multi-provider environment and bundled services platforms.

7. What are the integration requirements and recommended approach to facilitate on-net IP-based communication (number portability, routing and domain name resolution) between a supplier-hosted model and the large number of existing GC-managed voice over IP (VoIP) telephony services and systems?

Desktop Communications and Conferencing Services

Questions for Industry Feedback (cont.)

OPERATIONAL/TECHNICAL (continued):

8. What are the possible technology or service enhancements over the next 5 to 10 years that we may need to consider in our requirements?
9. Is fixed/mobile convergence available as part of desktop communications service? Which services are available on mobile platforms?
10. What are the challenges in implementing a service at the Secret level? Is a hosted service a feasible option to support Secret level services for desktop communications services and/or conferencing services?
11. Is IP version 6 (IPv6) supported for end-user devices (e.g. Phones)?
12. Can all hosted services be delivered within Canada? (i.e. all traffic remains in Canada)

Desktop Communications and Conferencing Services

Questions for Industry Feedback (cont.)

PROCUREMENT:

1. Provide feedback on service bundling options (e.g. Bundles 1, 2, 3).
2. Describe pricing options for desktop communications and conferencing services.
3. Provide recommendations on the approach for the technical evaluation of Supplier proposals (e.g. mandatory vs. rated requirements).
4. Provide recommendations for requirements to maximize competitiveness and minimize costs. What are the factors that drive rates up?
5. Provide feedback on proposed procurement approach (supplier-hosted) and timelines, considering existing systems and services.

Desktop Communications & Conferencing Services

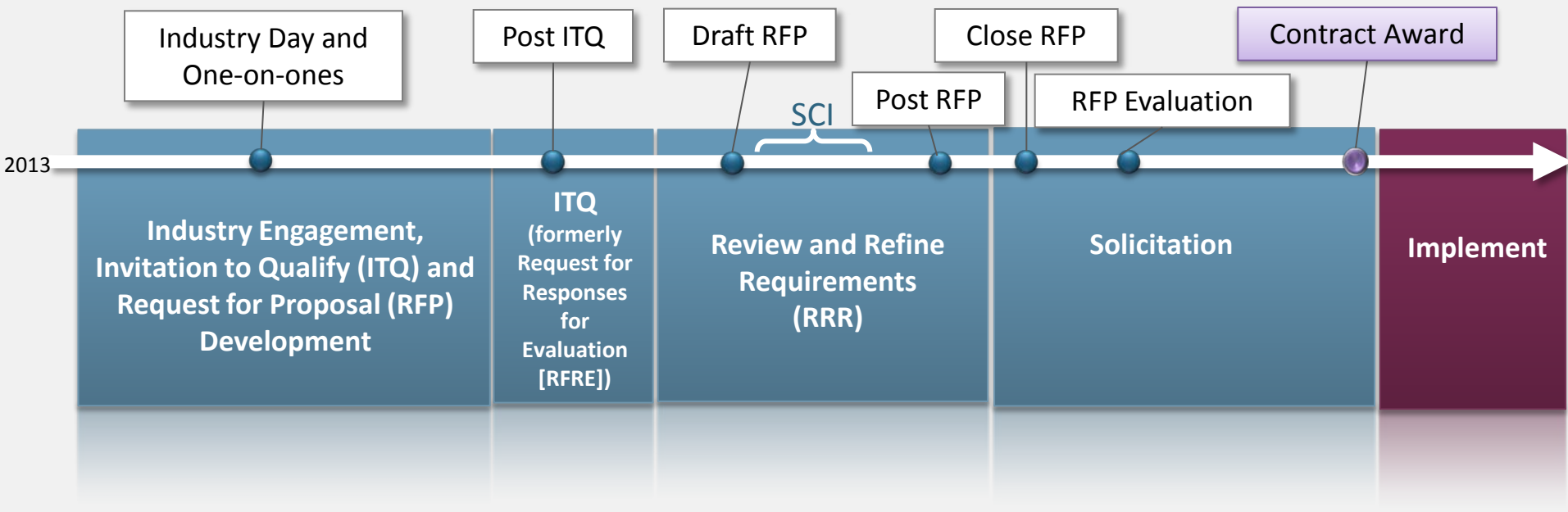
Questions for Industry Feedback (cont.)

PROCUREMENT (continued):

6. Advantages of bundling managed LAN/WLAN services with desktop communications services? How much monthly recurring costs would this add per workstation?
7. What are the considerations related to facilitating real-time applications (e.g. voice, video) in a multi-supplier arrangement?
8. What should the length of contract be (including option years)?
9. Provide feedback on proposed procurement timelines.
10. Should fax server services be bundled in with other converged communications services?

Desktop Communications and Conferencing Services

Procurement Timeline to Contract Award(s)



- Collaborative procurement approach will result in a balance of industry capability with cost effectiveness; supports additional front-end effort.
- Objective of industry consultation is to assist SSC decisions on scope and bundling of services.

Break – 15 Minutes

Coffee and refreshments are available in the lobby.

Please return to your seat by 2:50 p.m.



Contact Centre Infrastructure Services



Contact Centre Infrastructure Services

What Is a Contact Centre Infrastructure Service?

Provides the capabilities and technology that allow external and internal stakeholders to contact a government service agent or automated self-service system through **multiple channels** including voice (TDM and VoIP), email, text messaging and desktop video.

- Typically a cloud-based (i.e. hosted) solution.
- Provides the necessary infrastructure (seats, servers, facilities, etc.) and some applications as a service, usually billed on a per-concurrent-seat basis.



FEATURES :

- *Inbound, outbound contacts or a combination*
- *Workforce optimization solutions*
- *Real-time and historical statistics collection and reporting*
- *Skills-based routing and related queuing*
- *Speech analytics*
- *Call recording*
- *Email and text-chat*
- *Interactive voice response applications*
- *Automatic call distribution*
- *Disaster recovery and business resumption planning*
- *Computer telephony interface functionality (aka "Screen Pop")*
- *Borderless configuration (agents can be anywhere)*
- *Help desk services*

Contact Centre Infrastructure Services

Current Situation

Current services includes:

- Interactive voice response
- Voice calls
- Supervisor/manager toolset
- Call recording
- Real-time and historical reporting
- Training
- Both outbound and inbound contact centre traffic
- Quality metrics and reports
- Computer telephony interface functionality
- Service for hearing and visually impaired users
- Intra-call centre email / instant messaging



...to support these functions:

- Information accessibility
(e.g. 1-800-O-CANADA)
- Programme delivery (e.g. Passport Canada, Human Resources and Skills Development Canada, Citizenship and Immigration Canada)
- Employee services
(e.g. Pay, Pension, Benefits, Human Resources information)
- Medical services (Health Canada's Non-Insured Health Benefits, Veterans Affairs)
- Surveys (Statistics)
- Revenue collection (Canada Revenue Agency)
- Information technology help desks

GC Contact Centre Statistics

> 250
contact centres
(of various sizes)

> 600M min. /
100M calls per
year

> 12 000
contact centre
agents/seats

> 20 different
technologies, at
least 30 different
contracts

Contact Centre Infrastructure Services

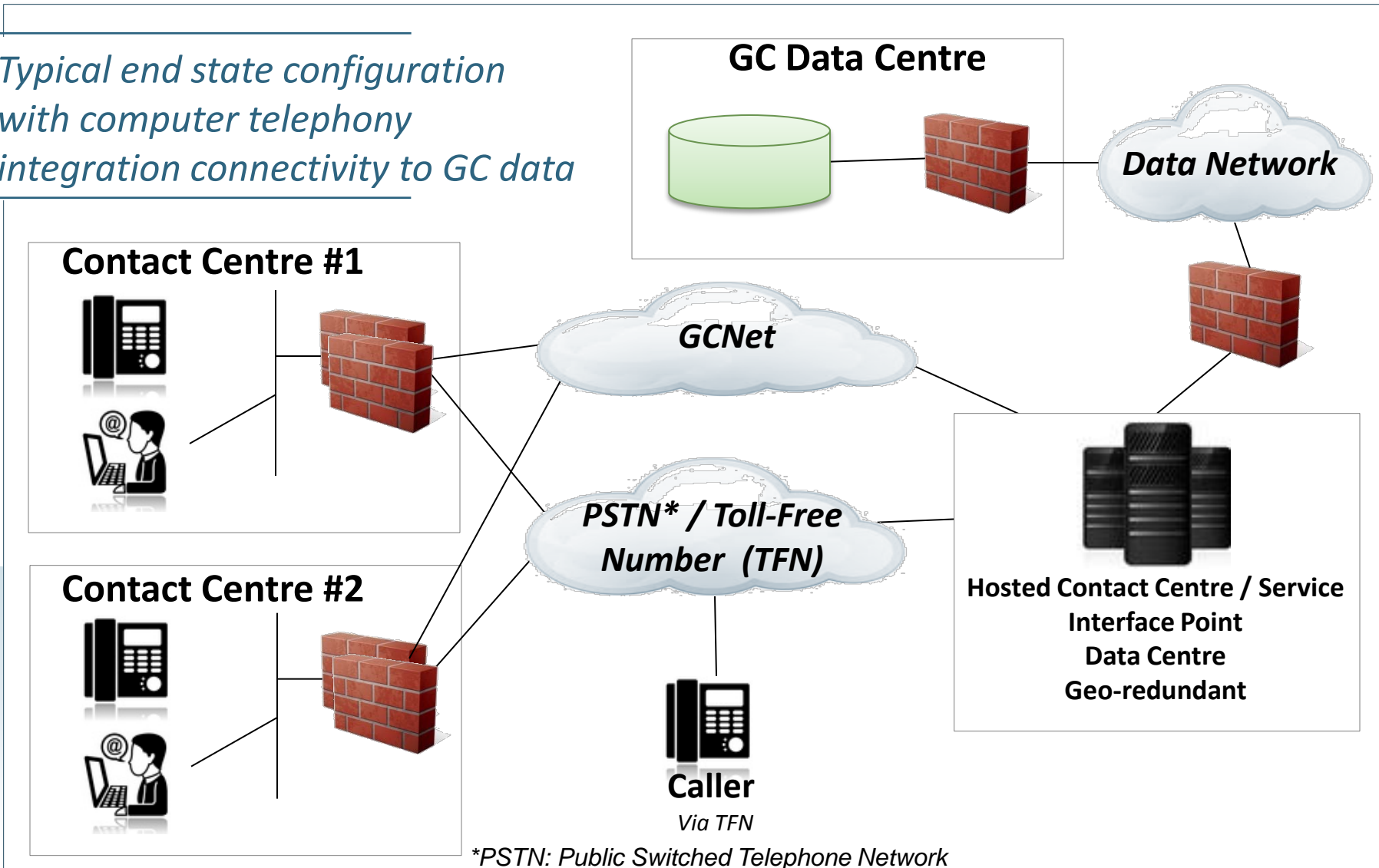
End State Functional Requirements

- Transition to a **consolidated contact centre infrastructure and service contract**
- Multi-channel capable (voice [TDM and VoIP]), email, text messaging and desktop video)
- Borderless configuration (agents can be anywhere)
- Service level requirements: carrier grade service
- Performance monitoring
- Detailed reports available via Web and easily customized for special requirements
- Load balancing and dynamic call-flow control
- Management information system
 - Real-time statistical reporting and trend analysis
- Support for multiple Lines of Business with distinct business rules, Application Programming Interface (API) / interfaces to partner databases and security requirements (up to Protected B)

Contact Centre Infrastructure Services

End State

Typical end state configuration with computer telephony integration connectivity to GC data



Contact Centre Infrastructure Services

Engaging Industry for Feedback

Objective:

- Allow for an exchange of information through discussion (during one-on-one sessions) with telecommunications experts that will ultimately inform telecommunications transformation strategies and procurement planning.
- Provide suppliers with the opportunity to share their knowledge with the GC on the following discussion topics (detailed slides to follow):
 - 1. Deployment Model**
 - 2. Service Bundling**
 - 3. Pricing Methodology**
 - 4. Contract(s) Period**

What are the **technical challenges, requirements** and **recommended pricing model** for successful deployment and ongoing support of each deployment model?

- Taking into consideration that the application and transport layer functions may be under separate contracts.

1 *Supplier-Hosted Services*

2 *GC-Hosted Supplier Managed*

3 *GC-Hosted Co-Managed*

Contact Centre Infrastructure Services

Service Bundling Options

Discussion
Topic

2

Bundle contract for
contact centre
infrastructure services and
toll-free services

or

1 contract for
contact centre
infrastructure
services

1 contract for
toll-free service

FACTS:

- The GC has approximately 15 000 toll-free numbers (TFN) of which only about 500 TFNs are the front end of the 250 contact centres.
- Every contact centre needs a TFN, but not every TFN terminates at a contact centre.
- 95 % of toll-free traffic is associated with contact centres.
- Separating the contracts may allow for a “best-of-breed” solution and lower pricing by allowing more competition between suppliers.
- By combining contact centres and toll-free services on one contract, the GC would have a single point of contact in the event of incidents or trouble reports.

Questions:

- Based on the facts we are seeking industry’s perspective on the optimal solution.
- What are the pros and cons of doing separate contact centre and toll-free contracts or combining them into one?

As call centres become contact centres, what is the effect on billing models?

- What services or components should be dealt with in a flat per-seat cost?
- Where do per-active-agent costing models work best?
- Are there other potential pricing models?
- Which services or components are best managed on a metered consumption basis (e.g. video)?
- Are pricing reviews at fixed intervals (based on market benchmarks) over the period of contract(s) advisable?
- What are the factors that drive the rates up?

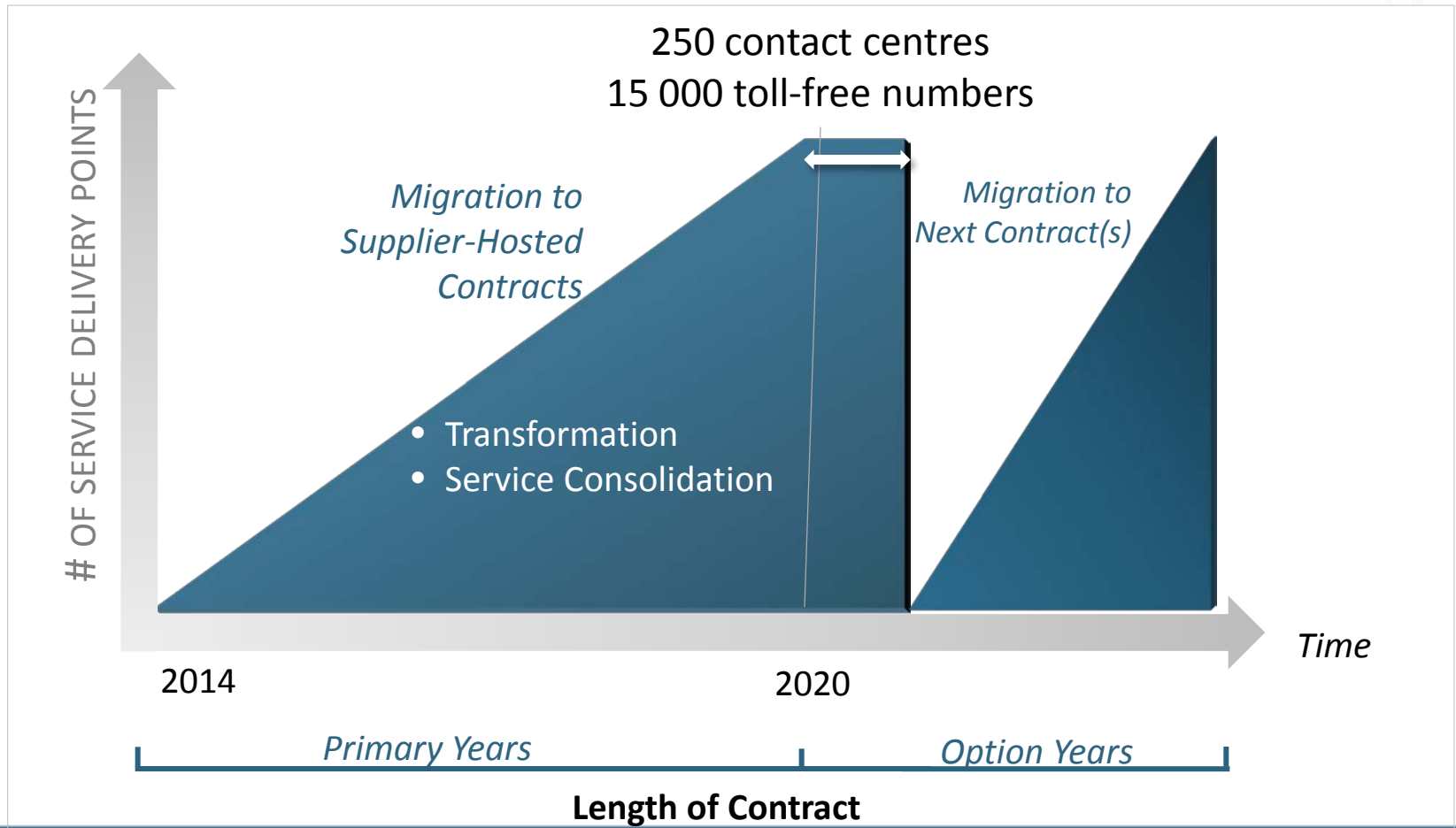
Contact Centre Infrastructure Services

Contract Period

Discussion
Topic

4

- Recommended contract length (including option years)?



Contact Centre Infrastructure Services

Questions for Industry Feedback

OPERATIONAL/TECHNICAL:

1. What are the most significant new forms of contacting a contact centre? Do you have any trend data?
2. What multimedia features are available, and how they are handled with other clients from a security perspective?
3. What are the bandwidth requirements?
4. What are the considerations for interfacing with standard APIs?
5. What would be your approach to migrating 250 contact/call centres with 12 000 agents in the most efficient manner? Estimated time?
6. In a supplier-hosted environment, can all recordings be done in GC data centre?
7. Is IPv6 supported for end-user devices (e.g. phones)?
8. Can all services be delivered from within Canada? Can traffic used to deliver contact centre services remain within Canada (with exception of all to/from outside the country)?

Contact Centre Infrastructure Services

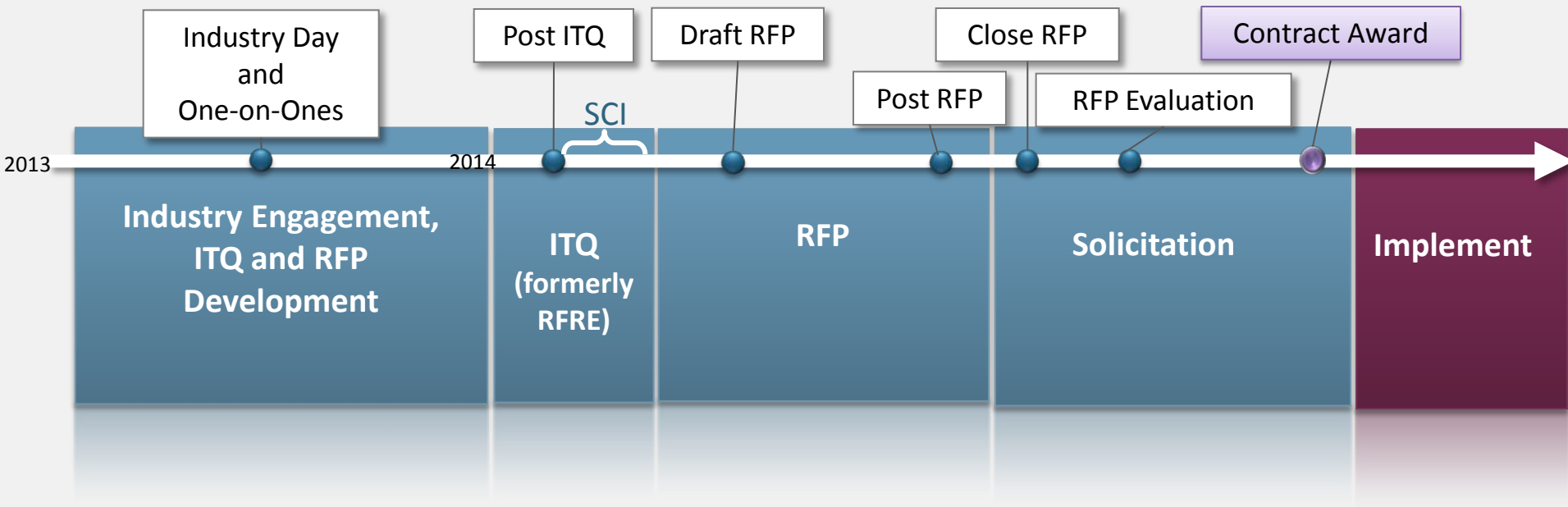
Questions for Industry Feedback (cont.)

PROCUREMENT:

1. What pricing model would be most beneficial to Canada?
2. What should be the contract length (including option years)?
3. Provide recommendations on the approach for the technical evaluation of supplier proposals.
4. Provide recommendations for requirements to maximize competitiveness and minimize costs. What are the factors that drive rates up?
5. What requirements should SSC be considering to accelerate the implementation of the services?
6. Can a supplier-hosted service RFP contain a requirement to route traffic only in Canada (for intra-Canadian traffic)? If so, would this impact costs?

Contact Centre Infrastructure Services

Procurement Timeline to Contract Award



- Collaborative procurement approach will result in a balance of industry capability with cost effectiveness; supports additional front end effort.
- Objective of industry consultation is to assist SSC decisions on scope and bundling of services.

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Next Steps

- Industry one-on-one engagements to be held to obtain feedback on the discussion topics.
 - Industry feedback will be incorporated into the statement of work
- Initiate next phase of the procurement process and ITQ.
 - Desktop Communications and Conferencing Services
 - Contact Centre Infrastructure Services

Questions?
(for suppliers only)





Cyber & Supply Chain Threats to the GC

Converged Communications Industry Day

September 24, 2013

Les Wong, A/Director Strategic Relationships Office
Communications Security Establishment Canada



CSEC: What We Do

- CSEC: Canada's national cryptologic agency
- Our Mandate
 - Foreign Signals Intelligence
 - IT Security
 - Support to Lawful Access
- 'B' Mandate
 - To provide advice, guidance and services to help ensure the protection of electronic information and of information infrastructures of importance to the Government of Canada



CSEC: IT Security Program

- We help prevent, detect and defend against IT security threats and vulnerabilities
- CSEC provides unique technical expertise, capabilities and classified information that we use to complement commercial security technologies available to IT security practitioners
- We use our own methods and operations to detect and defend against threats that are not in the public domain



Effects of Market Forces on Technology

- Market forces favour commercial and personal technologies over requirements for security features
- Our society is almost totally dependent on software and hardware commercial technology providers from global markets
- New products and new versions of products are rapidly produced
- No regulatory framework exists for hardware/software safety and security
- Traditional government policies and processes impose security requirements after products and systems have been developed
- Few incentives for commercial technology developers to invest in security



Technology Vulnerabilities

- “People write software sloppily. Nobody checks it for mistakes before it gets sold”
 - Peiter Zatk0 (Mudge), WhiteHouse Cyber-Security Summit (2000)
- Unintentional vulnerabilities or weaknesses
 - Design flaws
 - Implementation errors
- Cyber Threat – a threat actor, using the Internet, takes advantage of a known vulnerability in a product for the purpose of exploiting a network and the information the network carries
- Intentional vulnerabilities or weaknesses
 - Predetermined deliverables can be implanted in a product with or without knowledge of company.
- Supply Chain Threat – a product can be easily tampered with in the supply chain to later facilitate a cyber-intrusion against that product in order to exploit a network and the information the network carries



The Evolving Cyber-Threat

- Today, malicious cyber activities are directed against Canada and our closest allies on a daily basis
- Threat actors range in sophistication from malfeasant hackers to organized crime groups, to terrorists to nation states
- Canadians trust the GC to defend Canada's cyber sovereignty and protect and advance our national security and economic interests



An Issue of National Security

- **Risks from vulnerable technologies**

- Covert and persistent access by cyber threat actors in Canadian data centre / cloud infrastructures threatens the sovereignty of GC information and the continuity of government operations
- Cyber threat actors are effective at exploiting enterprise technologies and management systems used to administer and operate data centre / cloud infrastructures

- **Risks from the supply chain**

- Increases opportunities for threat actors to circumvent GC cyber security measures
- More difficult for the GC to detect and remediate



GC Shared Services Procurements

- Shared Services Canada and CSEC are working in partnership to eliminate or significantly reduce risks to the GC from cyber threats & global supply chain vulnerabilities
- CSEC will provide follow-up briefings on supply chain risk mitigation to interested suppliers for GC shared services
 - Companies must be willing to sign a CSEC non-disclosure agreement to receive this information
- Security requirements for cyber-protection, cyber-defence and supply chain risk mitigation must be met by suppliers in order to successfully bid on GC shared services initiatives
 - As the IT Security authority for the GC, CSEC will seek long-term partnerships with successful suppliers
 - CSEC will assist Shared Services Canada in the pedigree analysis of supply chain information provided by respondents
- Examples of these requirements can be found on CSEC's website under Technology Supply Chain Guidance



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Supply Chain Integrity (SCI)

Converged Communications Services

Industry Day

September 24, 2013

Raj Thuppal, Director General, Cyber and IT Security Transformation Program

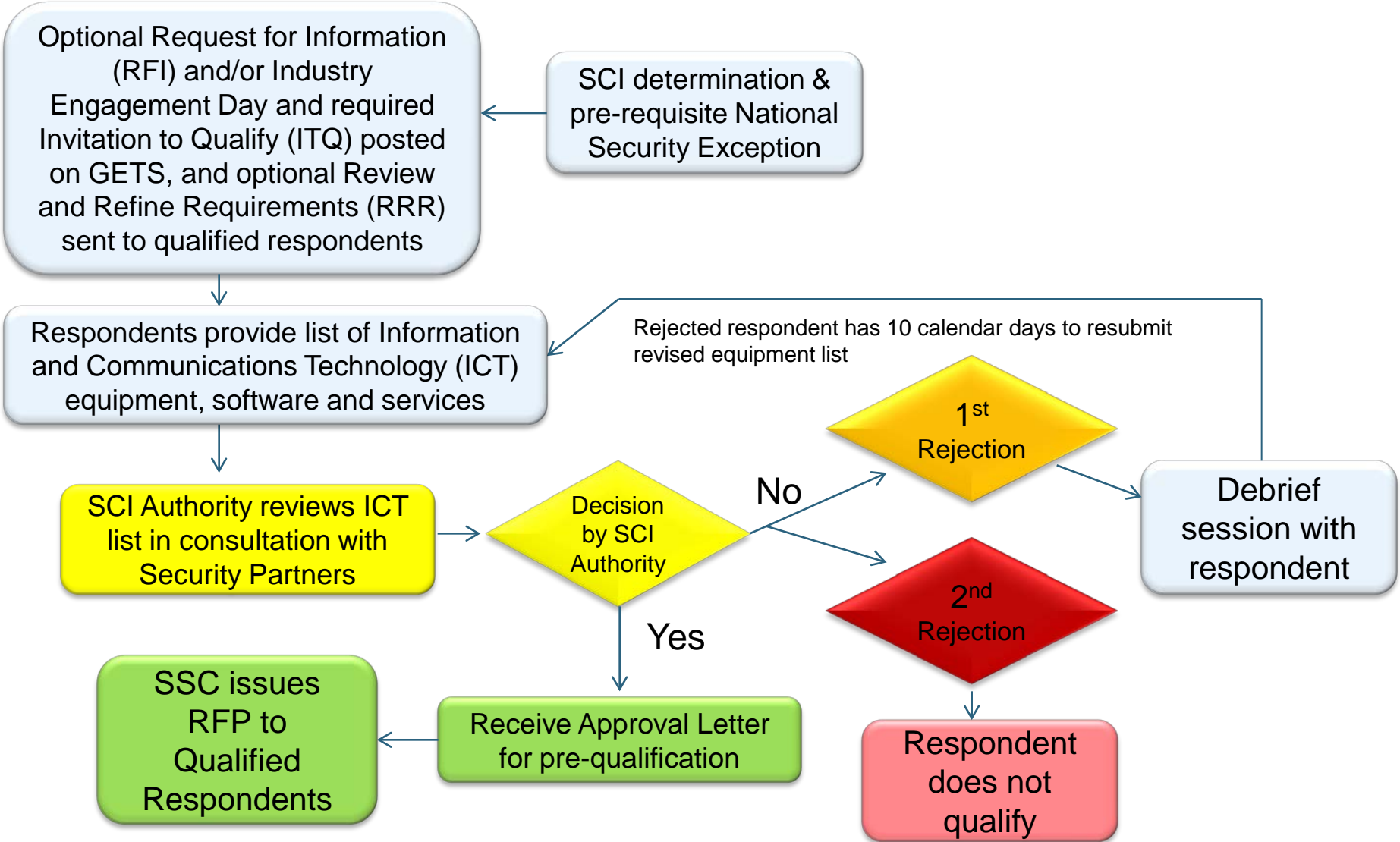


Shared Services
Canada

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Canada

Canada

SCI in Competitive Procurements

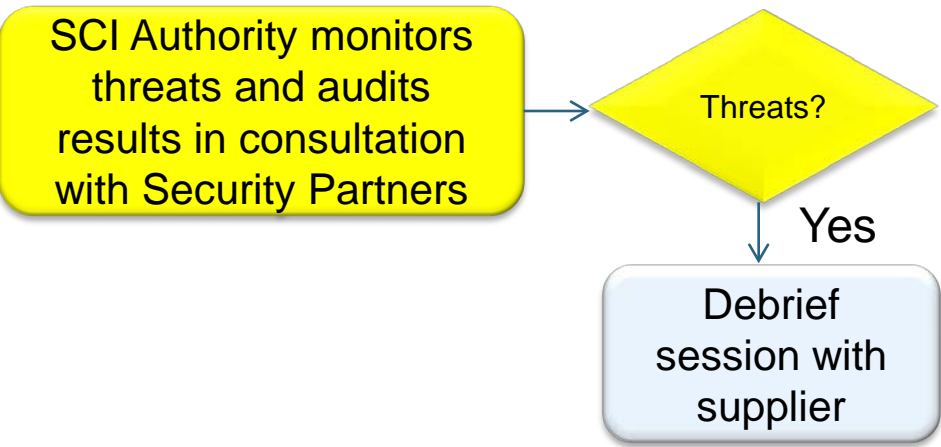
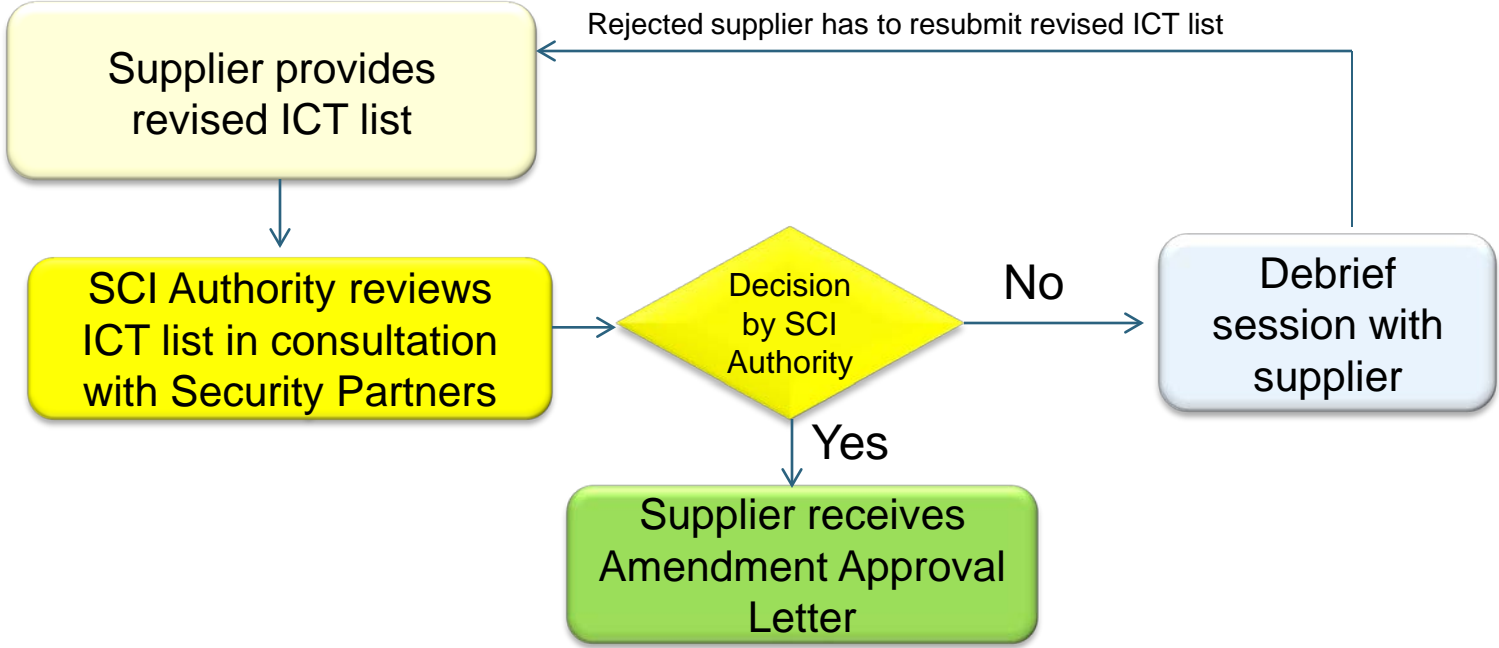


Required Information from the Respondents

- Once the SOW is finalized, GC will request that the respondents provide their Supply Chain Security Information. More specifically, when it applies, the GC will be requesting the following detailed information:
 1. List of equipment used to deliver the service (vendor, manufacturer, model number, software load version).
 2. List of managed services (names of companies and the location from where these services are delivered).
 3. Conceptual network diagrams showing third party dependencies and interconnections (includes physical and logical network topology, depicting the nodes and connections amongst nodes in the network).
 4. All of the above applies for sub-contractors and partners (sub-contractors and their own sub-contractors). This should include all companies who will be sub-contracted to provide equipment or services as part of the Converged Communications Services and Contact Centre Infrastructure Services projects.

On-going Supply Chain Integrity Auditing

On-going SCI auditing from the moment the contract has been awarded until it ends.



Internal threat evaluation can lead to the questioning/exclusion of specific equipment/services



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Procurement Approach

Alain Bédard
Shared Services Canada
Manager – Telecommunications Systems Division
Procurement and Vendor Relationships

September 24, 2013



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Converged Communications Services:

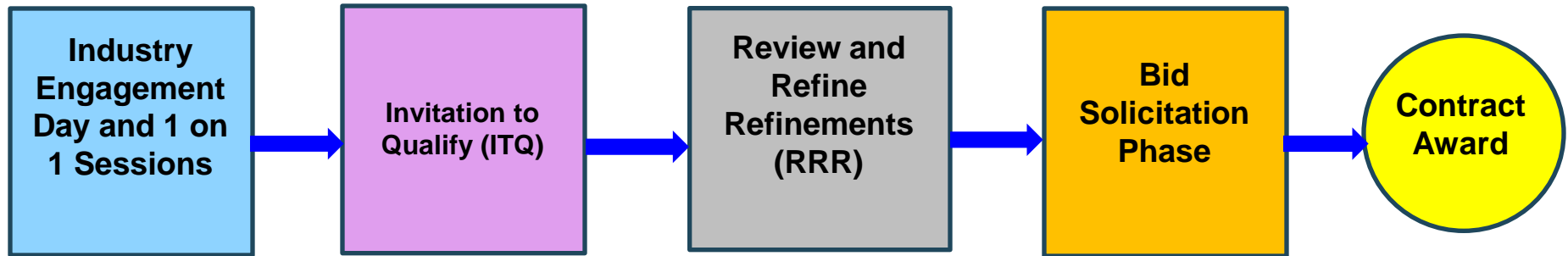
- Desktop Communications and Conferencing Services
- Contact Center Infrastructure Services

Desktop Communications and Conferencing Services

Procurement Approach

Collaborative Procurement Approach

Desktop Communications and Conferencing Services



Note 1: No Request for Information (RFI) is planned.

Note 2: Invitation to Qualify (ITQ) was previously known as Request for Responses for Evaluation (RFRE).

Invitation to Qualify (ITQ) Phase

Desktop Communications and Conferencing Services

- The purpose is to qualify suppliers who have demonstrated and proven skills and experience in implementing and operating converged communications services
- Evaluation criteria will focus on the supplier's capabilities and experience to deliver these services
- Suppliers who meet the mandatory ITQ evaluation criteria will be deemed Successful Respondents and will proceed to the Review and Refine Requirements (RRR) phase

Review and Refine Requirements (RRR) Phase

Desktop Communications and Conferencing Services

- Canada will provide a draft SOW to the Successful Respondents
- Canada will collaborate with Successful Respondents to seek feedback and clarification on Canada's requirements to refine the SOW (e.g. one-on-one sessions, Q's and A's, written submissions, etcetera)
- Once the SOW is finalized, Canada will request that Successful Respondents provide their Supply Chain Security Information (e.g. list of Information and Communications Technology (ICT) equipment, software, services and network diagrams) as part of Canada's Supply Chain Integrity (SCI) process
- Canada will conduct the SCI verification over a period of 10 calendar days to ensure that the ICT list meets Canada's security and supply chain standards

continued

Review and Refine Requirements (RRR) Phase

Desktop Communications and Conferencing Services

- Upon completion of the SCI verification process, Canada will provide respondents with written notification informing them if their ICT list is approved
- If a Respondent's ICT list is not approved, the Respondent will be briefed and have 10 calendar days following the receipt of Canada's written notification to resubmit it
- If the Respondent's ICT list is rejected a second time, there will be no further opportunity to resubmit a new list and the Respondent will not be qualified to proceed to the next phase in the procurement process
- Respondents whose ICT list is approved by Canada will be deemed Qualified Respondents and will proceed to the bid solicitation phase

Bid Solicitation Phase

Desktop Communications and Conferencing Services

- Canada may issue one Request for Proposal (RFP) or more to the Qualified Respondents
- Only Qualified Respondents will be permitted to bid on the RFP(s)

Contract Award and Implementation

Desktop Communications and Conferencing Services

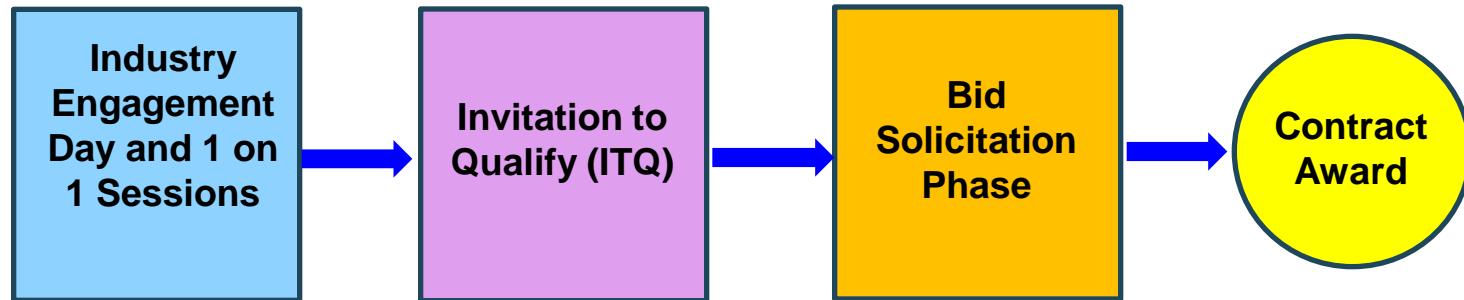
- One or more contracts may be awarded depending on the RFP(s)

Contact Centre Infrastructure Services

Procurement Approach

Procurement Approach

Contact Center Infrastructure Services



Note: No RFI is planned.

Invitation to Qualify (ITQ) Phase

Contact Center Infrastructure Services

- The purpose is to qualify suppliers
 - who have demonstrated and proven skills and experience in implementing and operating contact centre infrastructure services; and
 - whose Supply Chain Security Information (e.g. list of Information and Communications Technology (ICT) equipment, software, services and network diagrams) meets Canada's security and supply chain standards
- The ITQ will include a draft RFP
- Canada will request that the suppliers provide their ICT list as part of Canada's Supply Chain Integrity (SCI) process

continued

Invitation to Qualify (ITQ) Phase

Contact Center Infrastructure Services

- Canada will conduct the SCI verification over a period of 10 calendar days to ensure that the ICT list meets Canada's security and supply chain standards
- Upon completion of the SCI verification process, Canada will provide respondents with written notification informing them if their ICT list is approved
- If a respondent's ICT list is not approved, the respondent will be briefed and have 10 calendar days following the receipt of Canada's written notification to resubmit it
- If the respondent's ICT list is rejected a second time, there will be no further opportunity to resubmit a new list and the respondent will not be qualified to proceed to the next phase in the procurement process
- Respondents whose ICT list is approved by Canada will be deemed Qualified Respondents and will proceed to the bid solicitation phase

Bid Solicitation Phase

Contact Center Infrastructure Services

- Canada plans to issue a formal Request for Proposal (RFP) to the Qualified Respondents
- Only Qualified Respondents will be permitted to bid on the RFP

Contract Award and Implementation

Contact Center Infrastructure Services

- Contract Award after completion of the Bid Solicitation Phase
- One contract may be awarded



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Questions & Answers



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Recap / Closing Remarks

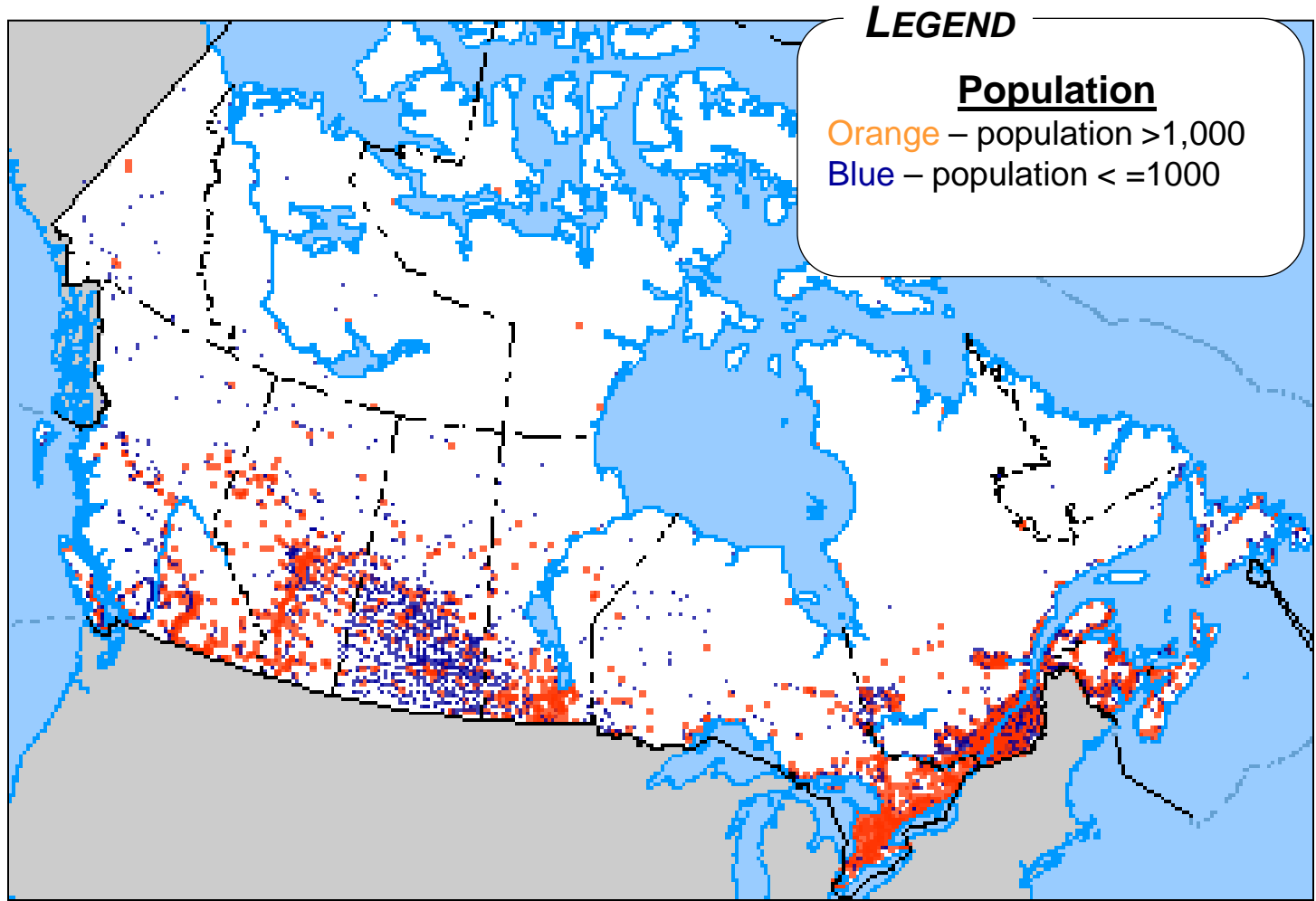


SSC Transformation Overview

Background - Current State

- Canada population = 33.4M
- 13 largest cities (metro areas) total population > 18M
- Canada has 230 cities with a population of > 15,000
- Important to factor in population distribution in network architecture to provide best service to citizen

Canadians population distribution

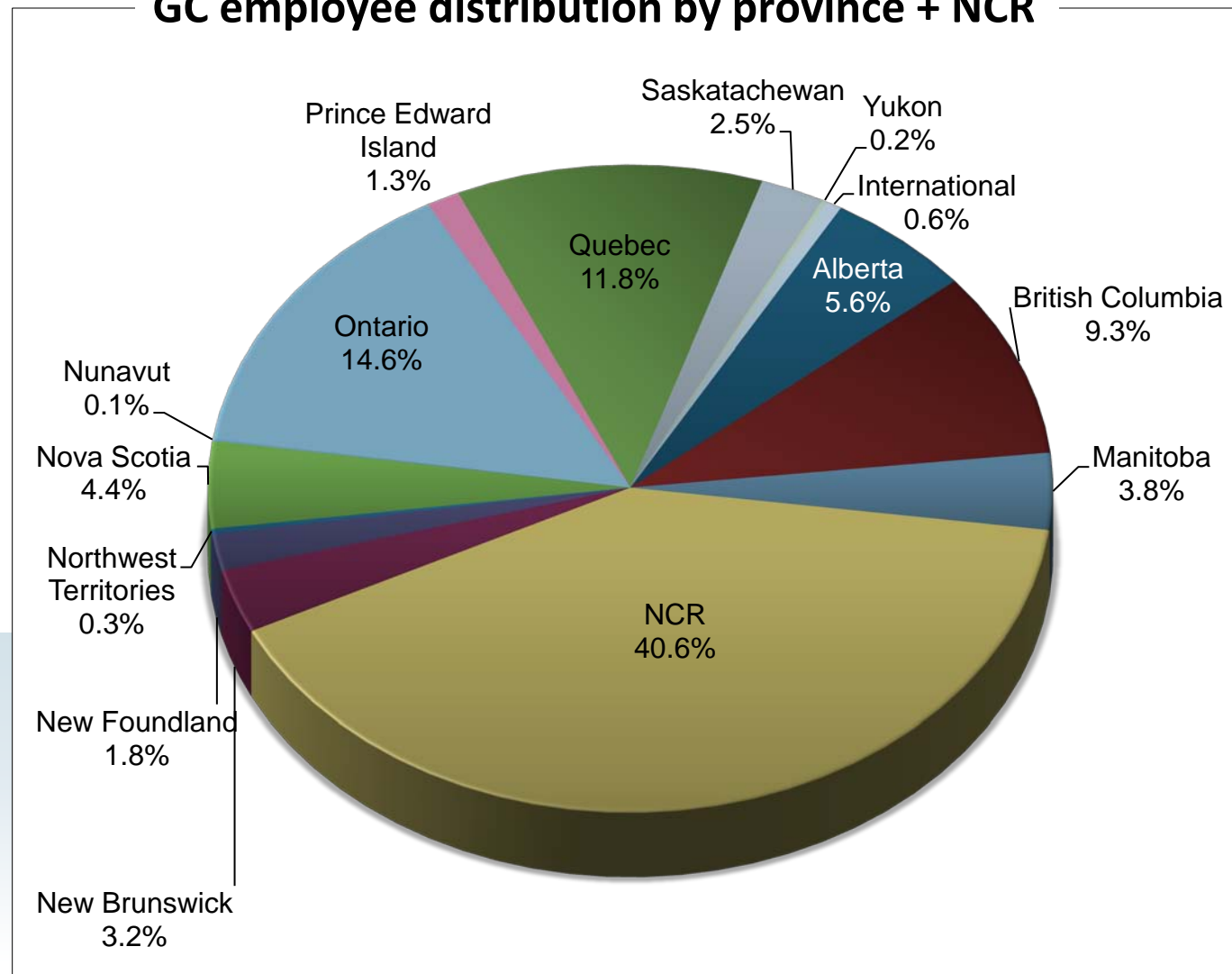


SSC Transformation Overview

Background - Current State

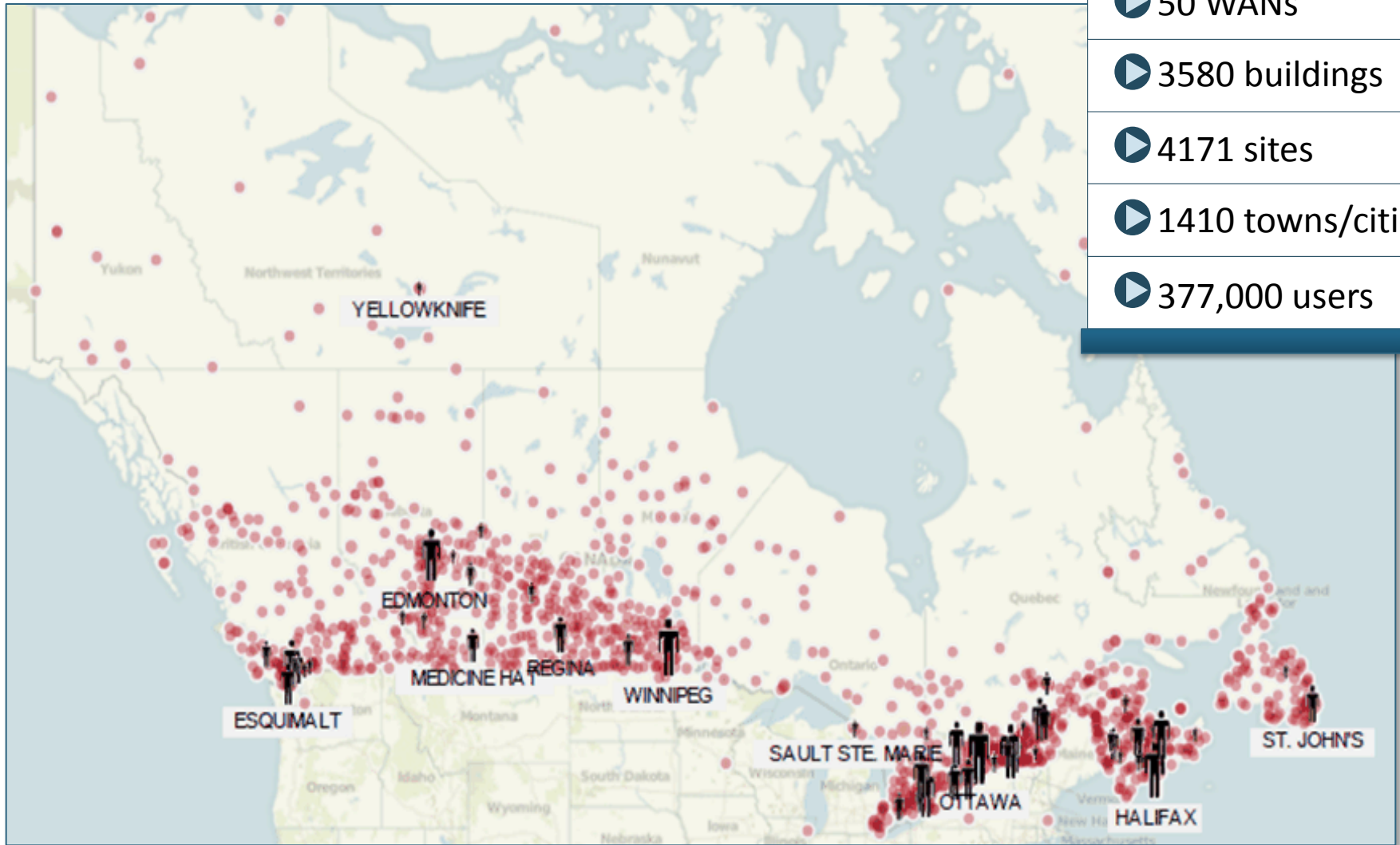
- Total of approximately 255,000 public servants (excluding military members of the Canadian Forces and RCMP officers)
- Over two thirds of public servant employees are located in Ontario and Quebec

GC employee distribution by province + NCR



SSC Transformation Overview

Background - Current State Complexity Across Canada



- ▶ 50 WANs
- ▶ 3580 buildings
- ▶ 4171 sites
- ▶ 1410 towns/cities
- ▶ 377,000 users

Note: Red dots indicate locations which need to be supported

SSC Transformation Overview

Background - Current State is Complex, Costly and Vulnerable

The Government's current IT infrastructure is complex, costly and vulnerable

Built and managed in silos, the existing web of infrastructure is unreliable, inefficient and difficult to maintain.

