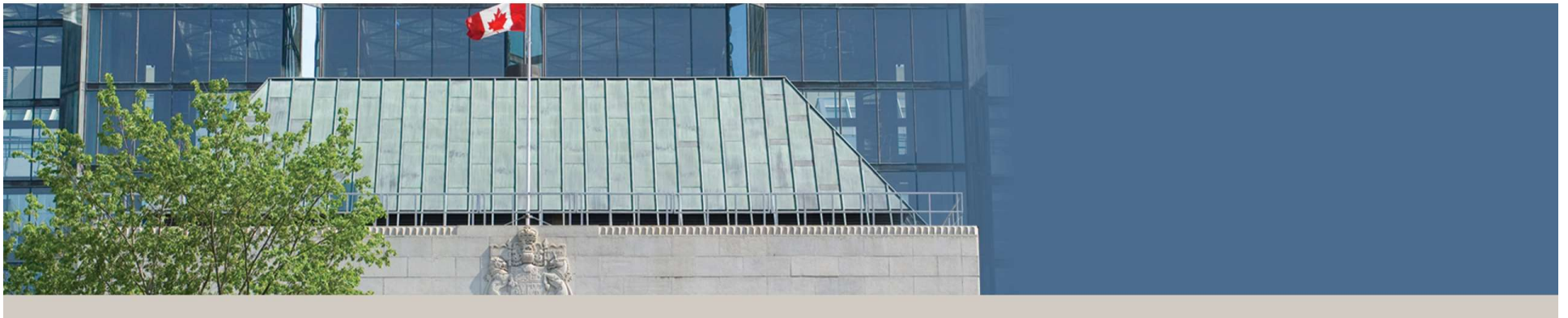




CEMLA – FIGI - WorldBank Financial Sector Cyber Resilience Workshop

Session VII - Enhancing financial sector resilience—exercising, mapping and collaboration



Andrew Griffiths
CFRG Manager of Secretariat
Financial Stability Department, Bank of Canada
November 7, 2019

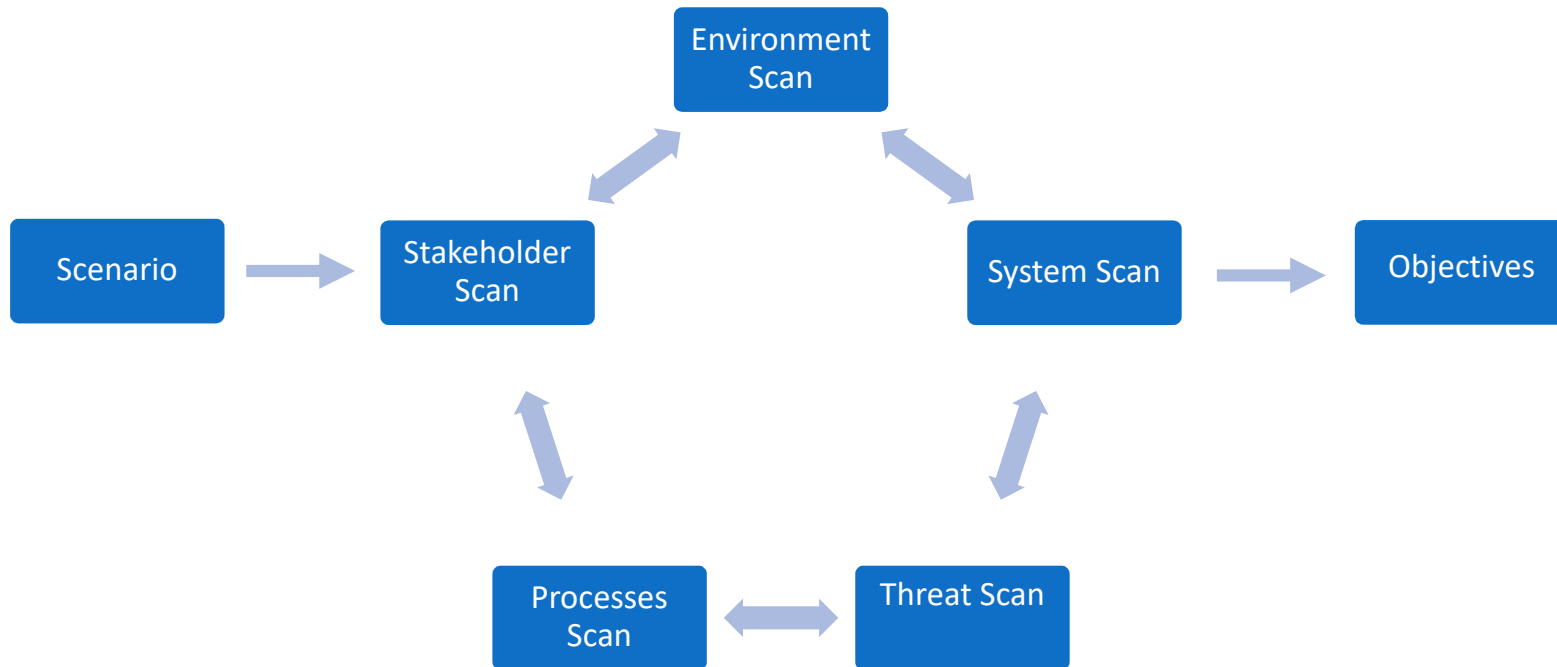
Exercise Experience

- Participated or lead countless continuity exercises for various systems / processes such as CLS, LVPS, Continuity of Operations, Telecom failures, etc.
- Designed and lead texts of manual contingency capability assessments
- Played an integral role in the design and execution of Canada’s largest critical-finance sector systemic-level operational resilience exercise which focused on escalation, coordination, and communication within the financial sector.
- Design-team member on the G7 Cyber Expert Group – Cross Boarder Contingency Exercise
- Adviser on the Bank of Canada’s “Resiliency in the Wholesale Payments System” Project

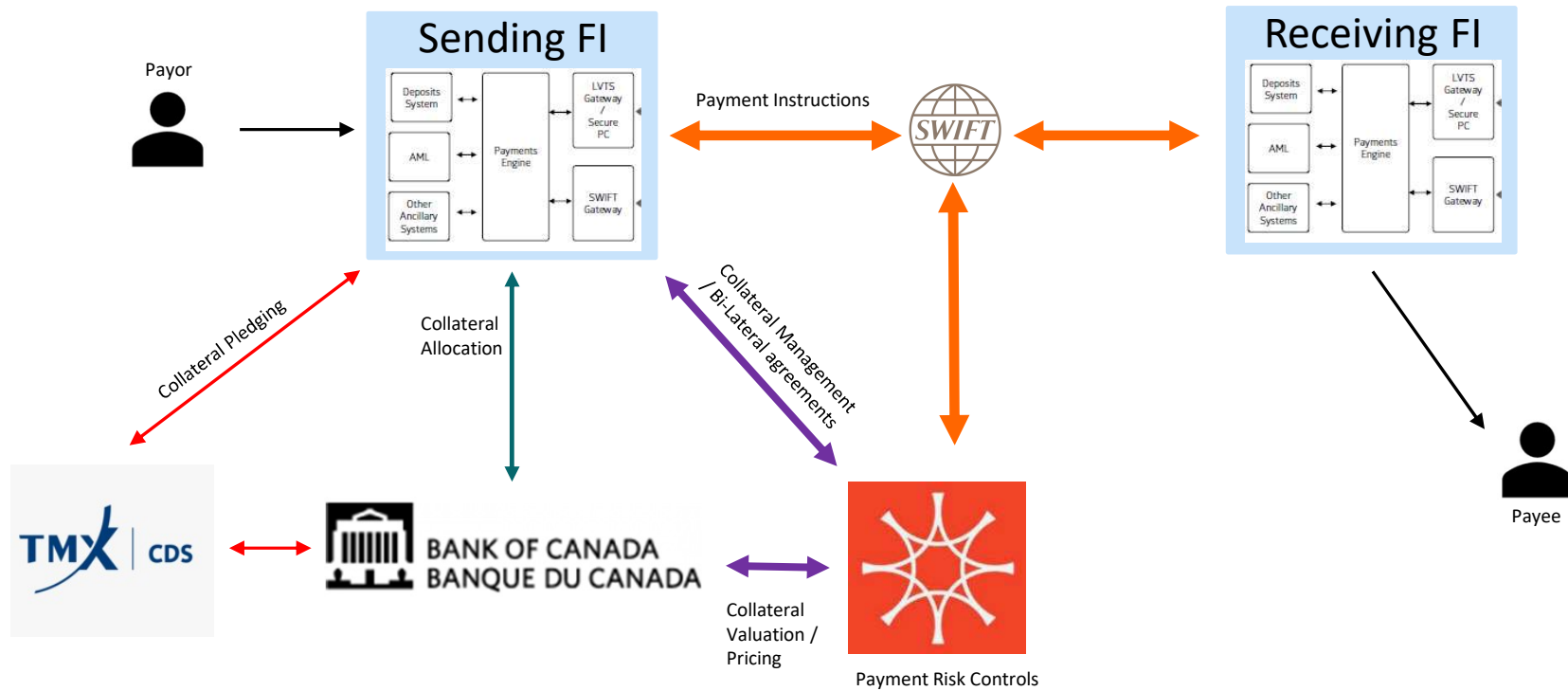
Personal Learnings from Designing Exercises



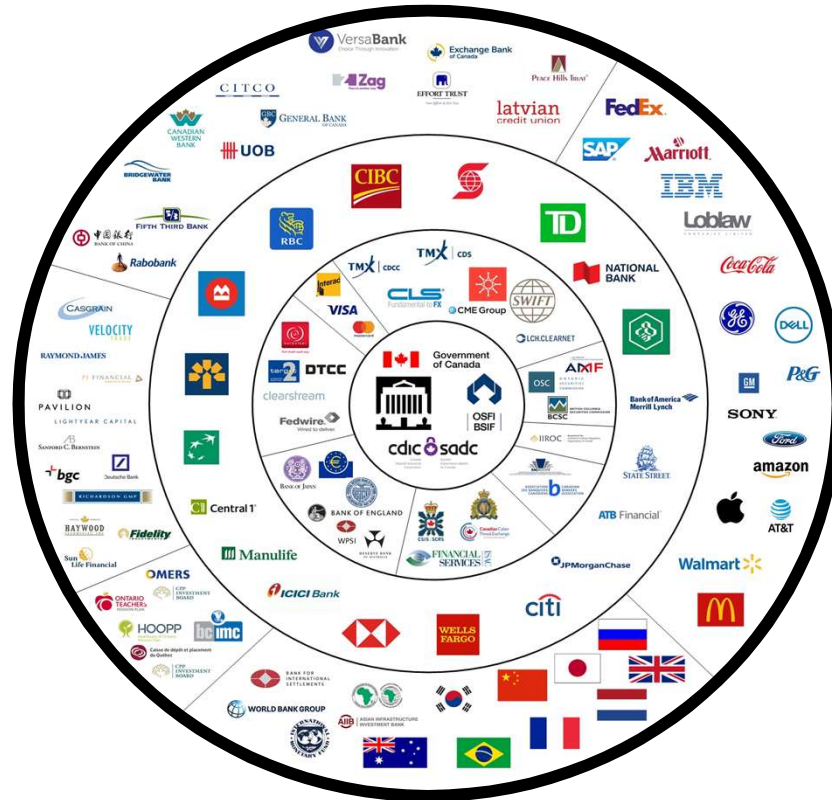
Defining the Objective



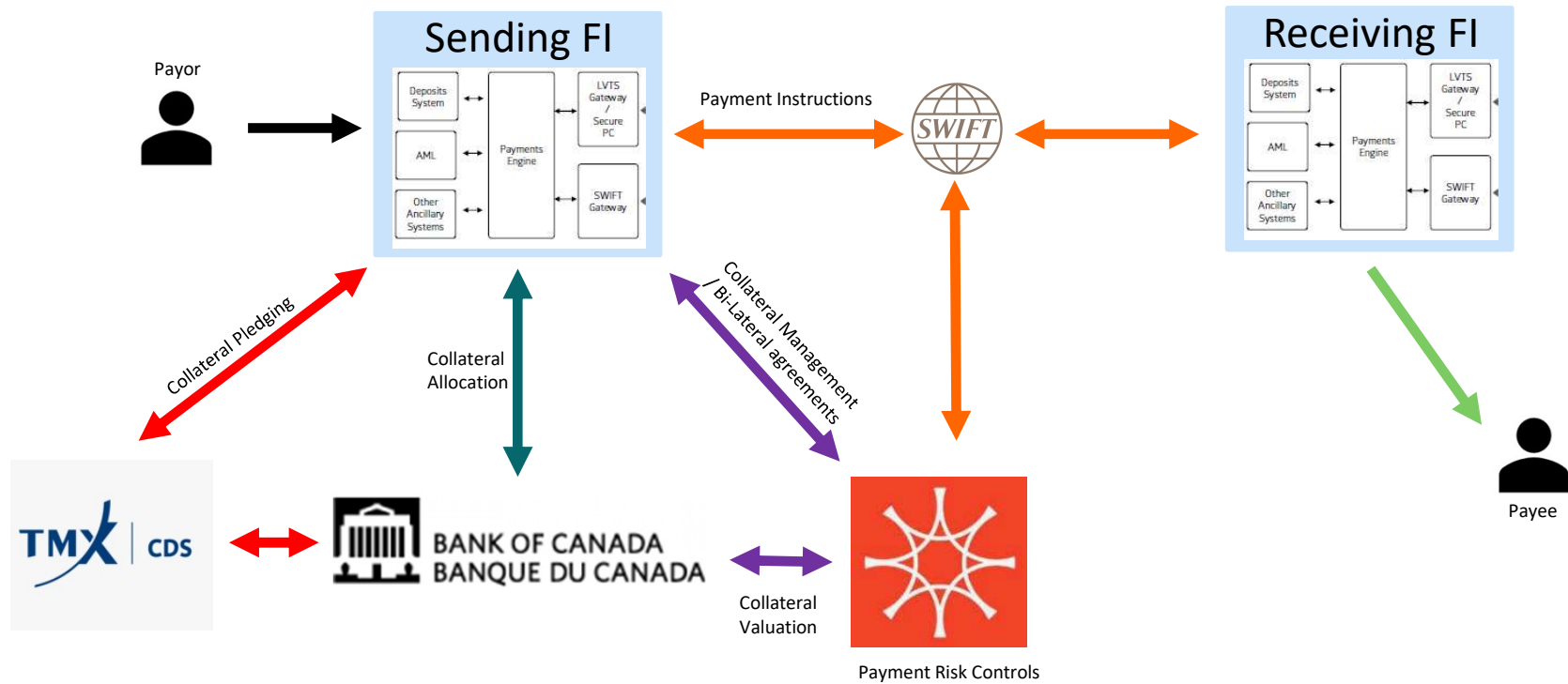
Environment Scan: Canadian Wholesale Payment Context



Environment Scan: Canadian Wholesale Payment Context



Environment System Scan: Canadian Wholesale Payment Context



Environment Stakeholder Scan: Canadian Context – Federal Level

Investors



Boards



Committees





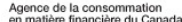

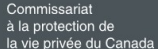




Associations



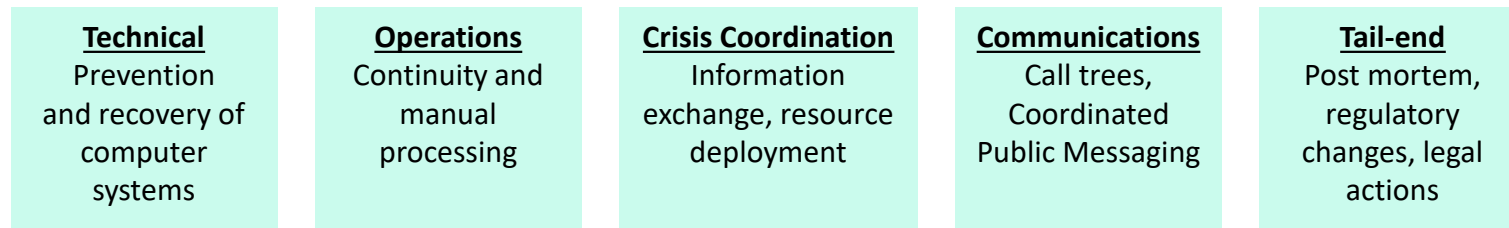
Stakeholders



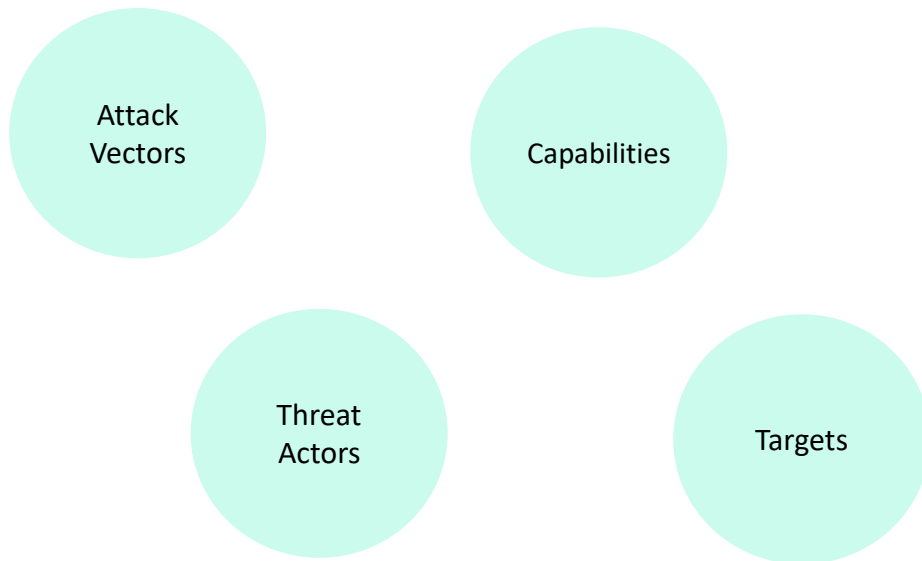
<p>FMI</p>	<p>FI</p>	<p>Clients / Consumers</p>	
 <p>BANK OF CANADA BANQUE DU CANADA</p>	 <p>OSFI BSIF</p> 	 <p>Financial Consumer Agency of Canada</p>  <p>Agence de la consommation en matière financière du Canada</p>	 <p>Office of the Privacy Commissioner of Canada</p>  <p>Commissariat à la protection de la vie privée du Canada</p>
 <p>Department of Finance Canada Ministère des Finances Canada</p>			

Environment Process Scan:

Processes with the system



Environment Threat Scan:



Conducting Exercises: Design



Objectives not Scenario

THIS

Environment scan shows:

Manual contingency capacities are inconsistent among participants.

Uncertain long term viability of manual operations.

Objective:

Test RTGS participants ability to send / receive 100% of payment volumes after a SIB has been disabled by a destructive cyber attack and has implemented manual contingency. Recovery times anticipated to be 48 hours.

NOT THIS



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Objective:

Test the wholesale payments environment to a destructive cyber attack.

Audience / Participants / Design Team

Audience

Receives the exercise after
action reports



Participants

Receives engage with the
exercise, respond to injects

Design Team

Design the exercise with objectives,
audience, and participants in mind



Type of Exercise

Seminar

Functional

Survey

Table Top

Live

Size and Scope Changes

Don't



Success

Move away from Pass / Fail

Focus on Areas for Improvement

Risk Factors

- Human nature
- Resource constraints
- Objectives are too ambiguous
- Have not dealt with the previous exercise lessons learned
- Suspension of disbelief
- Halo effect from past success / performance
- Failing to get stakeholder buy-in
- Budget constraints
- External coordination

Thank you

