



Treasury Board of Canada
Secrétariat

Secrétariat du Conseil du Trésor
du Canada

Canada

Assurance Level Assessment Demo

29 October, 2020

#secureGCDigital forum

Cyber Security - Digital Identity

Background

An Assurance Level is a **level of confidence** that may be relied on by others

The Assurance Level Assessment Tool was created to help answer the question “What is the minimum assurance level needed to achieve program objectives?”

Part of MAF assessment methodology as part of the security indicator

The current guidelines for Assurance Levels are found at the “Guideline on Defining Authentication Requirements” at <https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=26262>

Previous Workflow

- Uses a table to assess the level of harm caused by compromise of the system for 8 different categories of harm
- Found in Appendix A of the Defining Authentication Requirements guideline
- Additional details used for classifying harm found in a second table in Appendix B
- Results need to be manually compiled into a report
- Was difficult to use

Original Assessment

Appendix A: Assurance Level Requirement Worksheet

Assurance Level Requirement: The minimum level of assurance required to achieve a program objective, deliver a service or execute a transaction.

Program Activity, Service or Transaction:				
Assessor:				
Date approved:				
To determine the level of assurance required, complete the following sentence using the statements in the cells below and check the appropriate boxes: "If the program, activity, service or transaction above is compromised, it could result in..."				
Category of Harm	Level 1	Level 2	Level 3	Level 4
1. Inconvenience, distress, loss of standing or reputation	<input type="checkbox"/> An inconvenience, distress or damage to the standing or reputation of any party	<input type="checkbox"/> A serious short-term or a limited long-term inconvenience, distress or damage to the standing or reputation of any party	<input type="checkbox"/> A serious long-term inconvenience, distress or damage to the standing or reputation of any party	<input type="checkbox"/> A severe and permanent inconvenience, distress or damage to the standing or reputation of any party
2. Financial loss	<input type="checkbox"/> A financial loss	<input type="checkbox"/> A minor financial loss to any party (Note: The severity of the loss depends on the impact of the loss on the affected party.)	<input type="checkbox"/> A major financial loss to any party (Note: The severity of the loss depends on the impact of the loss on the affected party.)	<input type="checkbox"/> An extreme financial loss to any party (Note: The severity of the loss depends on the impact of the loss on the affected party.)
3. Harm to program or to public interest	<input type="checkbox"/> An adverse effect on any government organization, program, asset or the public interest	<input type="checkbox"/> A limited adverse effect on a government organization (i.e., it can perform its primary function but with reduced effectiveness), program, organizational asset or the public interest	<input type="checkbox"/> A serious adverse effect on a government organization (i.e., it can perform its primary function with significantly reduced effectiveness), program, organizational asset or the public interest	<input type="checkbox"/> A catastrophic effect on a government organization (i.e., it is unable to perform its primary function), program, organizational asset or the public interest
4. Unauthorized release of sensitive personal or commercial information	<input type="checkbox"/> A loss of personal privacy or breach of personal or commercial information	<input type="checkbox"/> A limited adverse effect on an individual or institution due to the loss of confidentiality or breach of privacy resulting from unauthorized release or improper disclosure of sensitive personal or commercial information	<input type="checkbox"/> A serious adverse effect on an individual or institution due to the loss of confidentiality or breach of privacy resulting from unauthorized release or improper disclosure of sensitive personal or commercial information	<input type="checkbox"/> A catastrophic effect on an individual or institution due to the loss of confidentiality or breach of privacy resulting from unauthorized release or improper disclosure of sensitive personal or commercial information
5. Unauthorized release of sensitive government information (non-personal information)	<input type="checkbox"/> A loss of confidentiality	<input type="checkbox"/> A limited adverse effect on organizational operations and assets due to a loss of confidentiality resulting from the release of sensitive government information to unauthorized parties	<input type="checkbox"/> A serious adverse effect on organizational operations and assets due to a loss of confidentiality resulting from the release of sensitive government information to unauthorized parties	<input type="checkbox"/> A catastrophic effect on organizational operations and assets due to a loss of confidentiality resulting from the release of sensitive government information to unauthorized parties
6. Civil or criminal violations	(Any compromise involving a legal violation is assessed at a minimum of Level 2.)	<input type="checkbox"/> A violation that may have minor consequences	<input type="checkbox"/> A violation that may have serious consequences	<input type="checkbox"/> A violation that may have exceptionally grave consequences
7. Personal health and safety	(Any compromise health and safety is assessed at minimum of Level 2.)	<input type="checkbox"/> A minor personal injury not requiring medical attention	<input type="checkbox"/> A personal injury requiring medical attention	<input type="checkbox"/> A serious personal injury or death
8. National interest	(Any compromise involving the national interest is assessed at a minimum of Level 2.)	<input type="checkbox"/> A disadvantage to the national interest	<input type="checkbox"/> An injury to the national interest	<input type="checkbox"/> A serious or exceptionally grave injury to the national interest
Assurance Level Requirement	<input type="checkbox"/> Minimum Level 1 Required if any of the above is checked	<input type="checkbox"/> Minimum Level 2 Required if any of the above is checked	<input type="checkbox"/> Minimum Level 3 Required if any of the above is checked	<input type="checkbox"/> Minimum Level 4 Required if any of the above is checked

Appendices from Policy Guidelines

Category of Harm	Level 1 Assessment	Level 2 Assessment	Level 3 Assessment	Level 4 Assessment
1. Inconvenience, distress, loss of standing or reputation	An inconvenience, distress or damage to the standing or reputation of any party	A serious short-term or a limited long-term inconvenience, distress or damage to the standing or reputation of any party	A serious long-term inconvenience, distress or damage to the standing or reputation of any party	A severe and permanent inconvenience, distress or damage to the standing or reputation of any party
2. Financial loss	A financial loss	A minor financial loss to any party (Note: The severity of the loss depends on the impact of the loss on the affected party)	A major financial loss to any party (Note: The severity of the loss depends on the impact of the loss on the affected party)	An extreme financial loss to any party (Note: The severity of the loss depends on the impact of the loss on the affected party)
3. Harm to program or to public interest	An adverse effect on any government organization, program, asset or the public interest	A limited adverse effect on a government organization (i.e., it can perform its primary function but with reduced effectiveness), program, organizational asset or the public interest	A serious adverse effect on a government organization (i.e., it is unable to perform its primary function with significantly reduced effectiveness), program, organizational asset or the public interest	A catastrophic effect on a government organization (i.e., it is unable to perform its primary function), program, organizational asset or the public interest
4. Unauthorized release of sensitive personal or commercial information	A loss of personal privacy or breach of personal or commercial information	A limited adverse effect on an individual or institution due to the loss of confidentiality or breach of privacy resulting from unauthorized release or improper disclosure of sensitive personal or commercial information	A serious adverse effect on an individual or institution due to the loss of confidentiality or breach of privacy resulting from unauthorized release or improper disclosure of sensitive personal or commercial information	A catastrophic effect on an individual or institution due to the loss of confidentiality or breach of privacy resulting from unauthorized release or improper disclosure of sensitive personal or commercial information

Category of Harm	Level 1	Level 2	Level 3	Level 4
1. Inconvenience, distress, loss of standing or reputation	<ul style="list-style-type: none"> Alternatives are available with little or no delay and no additional costs or degradation of service quality Minor embarrassment 	<ul style="list-style-type: none"> Alternatives are readily available Loss of reputation or standing between the principals Loss of trust or confidence between principals 	<ul style="list-style-type: none"> Alternatives are not readily available Loss of reputation or standing beyond the principals (including third parties) Loss of trust or confidence beyond the principals (including third parties) 	<ul style="list-style-type: none"> Alternatives are not available Wide-scale permanent loss of reputation or standing Wide-scale permanent loss of trust or confidence
2. Financial loss	No financial loss	<ul style="list-style-type: none"> Financial loss that has no impact or only an insignificant material impact on the financial standing of an individual or organization A budgetary impact that may require reallocation of funds but no additional financing 	<ul style="list-style-type: none"> Loss of a financial amount that has a significant material impact on the financial standing of an individual or organization A budgetary impact that may require re-allocation of funds and additional financing 	<ul style="list-style-type: none"> Loss of a financial amount that severely jeopardizes the financial standing of an individual or organization Financial restructuring may be required
3. Harm to program or to public interest	<ul style="list-style-type: none"> No noticeable reduction in effectiveness of a primary function of an organization No compromise to a critical asset No loss of public confidence 	<ul style="list-style-type: none"> Noticeably reduced effectiveness of a primary function of an organization No compromise to a critical asset Temporary loss of public confidence 	<ul style="list-style-type: none"> Significantly reduced effectiveness of a primary function of an organization Compromise to a critical asset Long-term loss of public confidence 	<ul style="list-style-type: none"> Unable to perform primary function of an organization Major damage to or potential loss of a critical asset Permanent loss of public confidence

New Assessment Tool

- Uses a questionnaire to determine Assurance Level
- Each level of harm has a selection of different impacts to choose from
- Part of Canada's Digital Playbook, hosted on Github
<https://canada-ca.github.io/digital-playbook-guide-numerique/views-vues/assurance-level-requirement/en/assurance-level-requirement.html>
- Questions dynamically fill out a table summarizing the results
- Results can be saved as a PDF Document
Document should be sent to cyber for record keeping afterwards

- Code is open source and available on GitHub
- Uses Wet-Boew Web Experience Toolkit
- Framework is modular, allowing for simple editing or creation of tools for similar tasks
- All actions are performed client side

Easier to find
Easier to use
Easier to see results

[Demo](#)

Questions, Opinions, or Feedback?

Please send any Questions, Opinions, or Feedback to:
zzcybers@tbs-sct.gc.ca

We are looking to gather opinions and feedback to help improve the tool and increase adoption

If this automation tool is found to be valuable, we will look at automating other static tools

Assessment Tool Location:

<https://canada-ca.github.io/digital-playbook-guide-numerique/views-vues/assurance-level-requirement/en/assurance-level-requirement.html>