

SCHEDULE 1.5
CARD MANAGEMENT AND AUTHENTICATION SERVICES SOW

STATEMENT OF WORK

THIS STATEMENT OF WORK (“**SOW**”) forms part of the Master Services Agreement between SECUREKEY TECHNOLOGIES INC. (“**Supplier**”) and HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA (the “**Province**”), as represented by the Minister of Labour, Citizens’ Services and Open Government made as of April 13, 2012, as amended from time to time (the “**Agreement**”) and is entered into as of April 13, 2012 (the “**SOW Effective Date**”) between Supplier and the Province in accordance with Section 2.2 of the main body of the Agreement.

1 INTERPRETATION

1.1 **Definitions.** All capitalized terms used in this SOW and not otherwise defined will have the meaning given to them in the Agreement. In this SOW:

“**Active User**” means an individual that has used a Services Card or any associated proxy-credential at least once in a fiscal year to access Health Related Services or Non-Health Related Services.

“**Amount At Risk**” means, in respect of this SOW and a Measurement Period, the greater of (a) [Redacted], and (b) [Redacted] of the aggregate amount of Usage Fees payable by the Province to Supplier for Services rendered by Supplier under this SOW as prorated for the applicable Measurement Period.

“**Authentication Project Plan**” means, for the purposes of this SOW, the plan for the performance of the Authentication Services set out in Appendix 2.3.

“**Authentication Services**” has the meaning given to it in Section 2.3.

“**Authentication Specifications**” means the Specifications for the Authentication Specifications Services set out in Appendix 2.3 and all fixes, enhancements or other changes thereto made in accordance with this SOW.

“**Base Fees**” has the meaning given to it in Appendix 5.1.

“**Card Management Database**” has the meaning given to it in Appendix 2.2.

“**Card Management Project Plan**” means, for the purposes of this SOW, the plan for the performance of the Card Management Services set out in Appendix 2.2.

“**Card Management Services**” has the meaning given to it in Section 2.2.

“**Card Management Specifications**” means the Specifications for the Card Management Services set out in Appendix 2.2 and all fixes, enhancements or other changes thereto made in accordance with this SOW.

“**Chip-based Cryptogram Authentication**” means the process of establishing confidence in the validity of a PAN associated with a Services Card by analyzing a cryptogram.

“**Cryptogram Checking Service**” means the Services with respect to Chip-based Cryptogram Authentication.

“**Fail Result**” has the meaning given to it in Appendix 2.3.

“**Health Related Services**” means any services under a Program that is health related and that require the Services Card to be authenticated by the Supplier.

“**NFC**” means near field communication.

“**Non-Health Related Service**” means any services under a Program that is not health related and that require the Services Card to be authenticated by the Supplier.

“**Pass Result**” has the meaning given to it in Appendix 2.3.

“**Personalization**” means the process of assigning and storing the PAN, expiry date, and sequence number to a Chip.

“**Personalization Information**” has the meaning given to it in Appendix 2.2.

“**Services Card Configuration Profile**” means the technical specifications for configuration of the EMV application on the Chip.

“**SOW Initial Term**” has the meaning given to it in Section 6.1.

“**SOW Renewal Term**” has the meaning given to it in Section 6.1.

“**SOW Services**” has the meaning given to it in Section 2.1.

“**SOW Term**” means the SOW Initial Term and any SOW Renewal Terms.

“**Supplier Operated Authentication Services**” means any authentication services operated or provided by Supplier for a third party, including the Her Majesty The Queen in Right of Canada, that are compatible with the Services Card or a Terminal.

“**Terminal**” means Supplier’s USB authentication token or any Supplier-enabled contactless reader or authentication technology embedded or provided in a computer or mobile device that is used instead of such token in connection with Supplier’s online payment and authentication solutions.

“**Terminal Equipment Project Plan**” means, for the purposes of this SOW, the plan for the performance of the Terminal Equipment Services set out in Appendix 2.4.

“**Terminal Equipment Services**” has the meaning given to it in Section 2.4.

“**Terminal Equipment Specifications**” means the Specifications for the Terminal Equipment Services set out in Appendix 2.4 and all fixes, enhancements or other changes thereto made in accordance with this SOW.

“**Usage Fees**” has the meaning given to it in Appendix 5.1.

“**Volume Based Price**” has the meaning given to it in Appendix 5.1.

1.2 Appendices. The following are the Appendices to this SOW as of the SOW Effective Date:

- Appendix 2.2 – Card Management Services
- Appendix 2.3 – Authentication Services
- Appendix 2.4 – Terminal Equipment Services
- Appendix 2.5 – Service Levels for SOW Services
- Appendix 5.1 – Fees

References to this SOW to include Appendices. Unless the context requires otherwise, references in this SOW to “this SOW”, “herein”, “hereof”, “hereunder” and “hereto” will include this SOW and the Appendices to this SOW, collectively.

- 1.3 Deemed Incorporation of Agreement Terms. In accordance with Section 2.2 of the main body of the Agreement, this SOW will be deemed to incorporate by reference the terms and conditions of the Agreement (excluding other SOWs) except to the extent otherwise expressly stated herein. For the purposes of this Statement of Work, all such terms and conditions incorporated by reference herein will survive until the termination or expiry of the SOW Term or as otherwise provided in Section 6.4.
- 1.4 Order of Priority. In the event of any inconsistency between any of the provisions of the main body of this SOW and the Appendices, the inconsistency will be resolved by reference to the following descending order of priority: (a) the main body of this SOW, and (b) the Appendices, with equal priority.

2 SOW SERVICES

- 2.1 SOW Services. Supplier will provide, on the terms and conditions set out in the Agreement as supplemented and modified by the terms and conditions of this SOW, the following Services (the “**SOW Services**”): (a) the Card Management Services, as described in Section 2.2; (b) the Authentication Services, as described in Section 2.3; (c) the Terminal Equipment Services, as described in Section 2.4; and (d) all other services and obligations of Supplier set out in this SOW.
- 2.2 Card Management Services. Commencing on December 2, 2012, Supplier will provide the Services described in Appendix 2.2 (the “**Card Management Services**”). Supplier will, at all times, provide the Card Management Services in accordance with the Specifications and other requirements set out in Appendix 2.2. The requirements and schedule for Supplier’s performance of the Card Management Services are set out in this Section 2.2 and the Card Management Project Plan (set out in Appendix 2.2).
- 2.3 Authentication Services. Commencing on February 1, 2013, Supplier will provide the Services described in Appendix 2.3 (the “**Authentication Services**”). Supplier will, at all times, provide the Authentication Services in accordance with the Specifications and other requirements set out in Appendix 2.3. The requirements and schedule for Supplier’s performance of the Authentication Services are set out in this Section 2.3 and the Authentication Project Plan (set out in Appendix 2.3).
- 2.4 Terminal Equipment Services. Commencing on December 16, 2012, Supplier will provide the Services described in Appendix 2.4 (the “**Terminal Equipment Services**”). Supplier will, at all times, provide the Terminal Equipment Services in accordance with the Specifications and other requirements set out in Appendix 2.4. The requirements and schedule for Supplier’s performance of the Terminal Equipment Services are set out in this Section 2.4 and the Terminal Equipment Project Plan (set out in Appendix 2.4).
- 2.5 Performance Standards. Supplier will perform each SOW Service in a manner that meets or exceeds the applicable Service Levels set out in Appendix 2.5. Subject to the additional or modified terms and conditions set out in Appendix 2.5, the terms and conditions set out in Schedule 3.4 of the Agreement will apply to all Service Levels. If Supplier fails to meet any Service Level set out in Exhibit A to Appendix 2.5, the Province will be entitled to the applicable remedies set out in Schedule 3.4 of the Agreement, as may be modified or supplemented by Appendix 2.5.

3 SOW ENGAGEMENT MANAGEMENT

- 3.1 Key Personnel. For the purposes of this SOW, the individuals set out in the following table will be Key Personnel as of the SOW Effective Date for the applicable period specified therein.

Key Personnel	Applicable Period
Andre Boysen	Until March 31, 2013
Chris Chapman	Until March 31, 2013
Hugh Cumming	Until March 31, 2013

4 OPERATIONAL REQUIREMENTS

- 4.1 SOW Reporting Requirements. In addition to Supplier's other reporting obligations under the Agreement, Supplier will comply with the following reporting requirements relating specifically to this SOW:

Report Name:	Weekly Card Status Updates Summary
Report Description:	Data file summarizing the Services Card status updates processed by Supplier for the week ending Sunday
Report Recipient:	Province
Delivery Method:	FTP of data file
Due Date:	Wednesday for the preceding week ending Sunday
Report Content:	Filename, start-time, end-time, count of updates by type, card management processing time, error count as XML file

Report Name:	Weekly Authentication Summary
Report Description:	Data file summarizing authentication activity for the week ending Sunday
Report Recipient:	Province
Delivery Method:	FTP of data file
Due Date:	Wednesday for the preceding week ending Sunday
Report Content:	Count of authentication events by type, count of new active users by type, Authentication Services availability, Authentication Services processing time as XML file

Report Name:	Weekly Time to Restore Summary
Report Description:	Data file listing Restore activity for the week ending Sunday
Report Recipient:	Province
Delivery Method:	FTP of data file
Due Date:	Wednesday for the preceding week ending Sunday

Report Content:	Event id, Restore type, Priority Level, start date-time, end date-time as XML file.
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Report Name:	Weekly Tier 3 Support Summary
Report Description:	Data file listing Tier 3 support activity for the week ending Sunday
Report Recipient:	Province
Delivery Method:	FTP of data file
Due Date:	Wednesday for the preceding week ending Sunday
Report Content:	Event Id, event type, Priority Level, start date-time, end date-time as XML file.

4.2 SOW Service Restrictions.

- (a) Supplier will not use, or facilitate the use by any Person of, the SOW Services provided under this SOW, including the Services Cards, for or by any Person, including in respect of Supplier Operated Authentication Services, other than for or by the Province or such Persons expressly approved by the Province. For clarity, Supplier shall not be restricted from providing the same types of services as the SOW Services to its other customers.
- (b) Supplier will not disclose the Card Identifiers to any Person other than the Province or its designees.

4.3 Supplier IP. The following is Supplier IP, and is expressly excluded from Province IP:

- (a) Supplier’s information technology system, including software, hardware and servers, used for delivery of the SOW Services and any improvements thereto; and
- (b) IINs and PANs.

4.4 Province IP. For certainty, the following is Province IP:

- (c) the Services Cards, including all status information in respect of the Services Cards, but excluding the EMV application on the Chip licensed to the Province;
- (d) Card Identifiers and all mapping information to corresponding PANs; and
- (e) Terminals purchased by the Province, excluding the software therein licensed to the Province.

4.5 Supplier Technology Platform. Without limiting Supplier obligations under Section 12 of the main body of the Agreement, at the request of the Province, Supplier will provide, subject to any contractual obligations of confidentiality binding Supplier that prevent Supplier from disclosing particular details, a list and general descriptions of all licences, contracts, commitments, technology, hardware, software, systems, materials, documentation, facilities, personnel, Intellectual Property Rights and other materials or resources of the Supplier used by Supplier to provide a material part or portion of the SOW Services.

- 4.6 Privacy. Without in any way limiting Supplier's obligation to comply with the Privacy Obligations, it is the expectation of the Parties, as of the SOW Effective Date, that the Card Identifier and PAN are not Personal Information, and that no Personal Information will be created, collected, stored or accessed by the Supplier under this SOW. If the Card Identifier or PAN becomes Personal Information as result of a change in Applicable Law, then such change will be treated as a Change and subject to Section 6 of the main body of the Agreement.

5 FEES

- 5.1 Fees. The Fees payable by the Province for the performance by Supplier of the SOW Services are set out in Appendix 5.1 and will permit the Province and Active Users to receive and use the SOW Services in accordance with the Agreement without any additional fee or expense to the Province.

6 TERM AND TERMINATION

- 6.1 SOW Term and Renewal. The term of this SOW will begin on the SOW Effective Date and continue until March 31, 2018 (the "**SOW Initial Term**"), unless terminated earlier in accordance with the Agreement. The Province may renew this SOW for three additional terms of one year (each, a "**SOW Renewal Term**") by providing notice to Supplier that it elects to renew this SOW at least 60 days prior to the end of the SOW Initial Term or the then-current SOW Renewal Term. Any such renewals shall be on the terms and conditions contained herein subject to the Supplier's right to increase Usage Fees during any SOW Renewal Term as described in Section 1(e)(ii) of Appendix 5.1 to this SOW.

- 6.2 Termination for Convenience Payment. If the Province exercises its right to terminate this SOW under Section 12.2(g) of the main body of this Agreement, the Province will promptly reimburse and make whole Supplier for (a) the full amount of fixed, non-cancellable, demonstrable fees payable by Supplier with respect to enabling the SOW Services for the period ending on the later of March 31, 2018 or the completion of any SOW Renewal Term, in connection with its agreements with: (i) Supplier Subcontractor(s) who will implement and provide the Cryptogram Checking Services and EMV Licensor(s) who will implement and provide the applicable EMV licenses; and (ii) the licensor of the card management system to be used by Supplier in the performance of the Card Management Services; (b) any other unrecoverable or otherwise stranded, demonstrable, reasonable, capital costs incurred by Supplier directly and exclusively with respect to, and arising from the termination of, the Services terminated as result of the exercise of this termination right and (c) any other demonstrable costs incurred by Supplier resulting from the financial impact of such termination on Supplier's business, up to a total maximum amount equal to the then remaining Base Fees payable until the end of the SOW Initial Term and excluding, for greater certainty, any compensation for foregone revenue or profit, or any costs or expenses that could have been mitigated by Supplier. With respect to subsection (a) above, to the extent any third parties (including other customers of Supplier) benefit in any way from the payment by the Province of the fees described in subsection (a) above, the Province will only be responsible for its equitable rateable share of such fees and Supplier will only invoice the Province for its expected rateable equitable share of such fees at the time this SOW is terminated pursuant to Section 12.2(g) of the main body of this Agreement, provided, however that, at the end of the time period referenced in subsection (a) above, Supplier will conduct a reconciliation of the amount paid by the Province for fees described in subsection (a) above against the fees the Province should have paid based on the actual benefits received by third parties from the date of termination until the end of the time period referenced in subsection (a) and will issue an invoice or rebate, as applicable, to ensure the Province has only paid its equitable rateable share of the fees described in subsection (a) above in accordance with this Section and no greater share.

- 6.3 Fees for Transition Assistance Services. If the Province requests any SOW Services be provided as part of Transition Assistance Services under Section 12.5 of the main body of the Agreement, the Province will pay Supplier all Base Fees and Usage Fees applicable to the provision of such SOW Services (as set out in this SOW) for as long as such SOW Services are provided during the Transition Assistance Period, unless the request is made in connection with the termination of this SOW or the main body of the Agreement for a material breach of the Agreement, in which case Supplier shall provide such SOW Services for no additional fees for a period not to exceed nine months after the effective date of the termination. Thereafter, the Supplier shall be entitled to receive all Base Fees and Usage Fees applicable to the provision of such SOW Services (as set out in this SOW) for as long as such SOW Services are provided during the Transition Assistance Period (for clarity, the same amount of Base Fees payable in the final year of the SOW Term before date of termination, but pro-rated for the actual duration of the Transition Assistance Period beyond such nine month period). Where Base Fees and Usage Fees are payable with respect to the provision of Transition Assistance Services after the expiration of this SOW, the Base Fees and Usage Fees that will be applicable will be the Base Fees and Usage Fees for the last year of the SOW Term. For clarity, in no event will Supplier be entitled to duplication of payments for Base Fees or Usage Fees under this Section 6.3.
- 6.4 Survival. The provisions of the Agreement identified in Section 12.12 of the main body of the Agreement and incorporated by reference herein and the provisions of this SOW requiring performance or fulfilment after the expiration or earlier termination of this Agreement, including Sections 4.3, 4.4 and 4.5, this Section 6.4, such other provisions as are necessary for the interpretation thereof, and any other provisions hereof, the nature and intent of which is to survive termination or expiration of this Agreement, will survive the expiration or earlier termination of this SOW.

7 GENERAL

- 7.1 Notice. Any notice, consent, authorization or other communication required or permitted to be given hereunder will be required to be provided in accordance with Section 13.10 of the main body of the Agreement.
- 7.2 Counterparts and Electronic Execution. This SOW may be executed in any number of counterparts, each of which will be deemed to be an original, and all of which taken together will be deemed to constitute one and the same instrument. Delivery of an executed signature page to this SOW by any Party by electronic transmission will be as effective as delivery of a manually executed copy of the SOW by that Party.

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EXECUTED by the Parties as of the SOW Effective Date.

SIGNED on behalf of Her Majesty)
the Queen in right of the Province)
of British Columbia by a duly)
authorized representative of the)
Minister of Labour, Citizens' Services)
and Open Government)
in the presence of:)

(Witness)

For the Minister

SECUREKEY TECHNOLOGIES INC.

By: _____
Name:
Title:

APPENDIX 2.2 TO SCHEDULE TO SCHEDULE 1.5
CARD MANAGEMENT SERVICES

1. Description of Card Management Services. This Section describes certain services, functions, processes and responsibilities that form part of the Services to be provided by the Supplier to the Province pursuant to this SOW.
 - (a) PAN Management and Assignment.
 - (i) Supplier will provide the Province and its designees with up to 6,500,000 PANs, each for use with a unique Services Card.
 - (ii) Supplier will maintain a Card Identifier, provided by the Province or its designees, for each issued Services Card.
 - (b) Services Card Personalization.
 - (i) Supplier will provide the Province and its designees with the technical specifications for the Chip and antenna for the Services Card to ensure proper authentication function with Terminals.
 - (ii) Supplier will remain compliant with the EMV licensor's requirements and any licence or agreement entered into in respect thereof.
 - (iii) Supplier will maintain the Services Card Configuration Profile to ensure, to the extent within Supplier or any of Supplier Subcontractor's control, continued functionality of each Services Card as an EMV contactless smart card.
 - (iv) Supplier will provide the Personalization Service Provider all necessary test keys for the purposes of testing Services Cards.
 - (v) Supplier will provide the following to the Province, or its designees as directed by the Province, to support Personalization of the Services Cards (the "**Personalization Information**"):
 - A. the Services Card Configuration Profile, and
 - B. the corresponding Card Data.
 - (vi) Supplier will provide the prepared Personalization files, in batches on a monthly basis in accordance with the Province's forecasted card Personalization volumes.
 - (vii) Supplier will set the expiry date for each Chip at 78 months from the date of Personalization.
 - (viii) The Province will only issue Services Cards with an engraved expiry date less than 66 months.
 - (c) Card Management Database.
 - (i) Supplier will maintain a card management database (the "**Card Management Database**") that:

- A. maintains the state of each Services Card, including but not limited to, the states of being personalized, issued, suspended, damaged, expired or cancelled;
 - B. maps Card Identifiers provided by the Province to the PAN for each issued Services Card in accordance with the corresponding data provided by the Province and its designees, and
 - C. supports the authentication of Services Cards and the authentication results provided to the Province.
- (d) Services Card Status Updates. Supplier will receive from the Province and its designees Services Card status updates and will update the Card Management Database in accordance with timeframes set out in the following table.

Description	Timeframe
status updates, including issuance, suspension, damage, expiration, or cancellation	≤ 1 Business Day

2. Card Management Specifications. This Section sets out the Specifications and other requirements for the Card Management Services.
- (a) Services Card Personalization. The Supplier will use payment card industry standard interfaces and formats in providing the Personalization information to the Province or its designees. The Supplier will provide a technical specification document to the Province that describes Services Card Personalization interfaces and formats.
 - (b) Services Card Status Updates. The Supplier will use open standard protocols and formats in receiving and providing Services Card status updates and will use payment card industry standard interfaces and formats to the extent applicable. The Supplier will provide a technical specification document to the Province that describes Services Card status update interfaces and formats.
 - (c) Security Specifications. Supplier will provide Services Card Personalization, status interfaces, data transfers, and card management systems in a secure manner and in compliance with Supplier standards, EMV standards, and payment network best practices. Supplier will keep the Province informed and up to date on payment network best practices.
3. Card Management Project Plan. This Section sets out the, as of the SOW Effective Date: (1) Supplier’s responsibilities in managing and performing the activities necessary to implement the Card Management Services; (2) the Milestones that Supplier will meet in its performance of such activities on or before the deadline designated for each Milestone; and (3) the Province Dependencies applicable to the activities that are subject to Schedule 3.1 of the Agreement. Supplier will be responsible for the management and completion of the activities and tasks described in the Card Management Project Plan, other than the Province Dependencies.
- (a) Test Components, User Acceptance Testing Periods and Acceptance Deadlines. The Test Components and the corresponding User Acceptance Testing Periods and Acceptance Deadlines are set out in the table below for the purposes of this SOW.

No.	Test Component	User Acceptance Testing Period	Acceptance Deadline
1	Personalization and Authentication Using Test Cards	Commencing on May 4, 2012 and ending on June 1, 2012	June 2, 2012
2	Personalization and Authentication Using Production Cards	Commencing on August 31, 2012 and ending on September 14, 2012	September 14, 2012
3	Services Card Status Updates	Commencing on July 1, 2012 and ending on October 30, 2012	October 31, 2012

- (b) **Testing Requirements.** For the purposes of this SOW, the following Test Components will have the following meanings:
- (i) **“Personalization and Authentication Using Test Cards”** means testing that the test Services Cards produced by the Personalization Service Provider correctly function with USB Terminal devices, authentication technology and the Cryptogram Checking Service;
 - (ii) **“Personalization and Authentication Using Production Cards”** means testing that the production Services Cards produced by the Personalization Service Provider correctly function with USB Terminal devices, authentication technology and Cryptogram Checking Service; and
 - (iii) **“Services Card Status Updates”** means testing that Services Cards status updates sent by the Province and its designees are correctly applied to the Card Management Database, including mapping a Card Identifier to each PAN for each personalized Services Card and storing each of the different states of the Services Card.
- (c) **Milestones.** On or before each of the dates set out in the table below in the column under the heading “Milestone Deadline”, Supplier will complete the corresponding Milestone described in the column under the heading “Completed Milestone”.

No.	Completed Milestone	Milestone Deadline
1	Services Card Status Update interface functional and Security design complete.	15-Apr-12
2	Personalization Service Provider Services Card Status Update interface functional and Security design complete.	15-Apr-12
3	Program-wide Services Card manufacturing and production Security design complete	31-May-12
4	Supplier to sign off "sample white" test Services Cards	01-Jun-12

No.	Completed Milestone	Milestone Deadline
5	Supplier to provide production personalization data file to Personalization Service Provider for first production batch.	01-Aug-12
6	Supplier to sign off production Services Cards	2-Sep-12
7	Card Management Services are production ready	30-Nov-12
8	Card Management Services have been fully accepted by the Province in accordance with this SOW and are in full operation, and the Service Levels for such Services are in effect	2-Dec-12

The Specifications for each of the various designs referenced in the table above, once agreed to by the Parties and set out in writing, will be used to determine whether the design is complete for purposes of this SOW. All such Specifications must comply with this Agreement.

- (d) Remedies for Failure to Meet Milestone Deadlines. Without limiting the Province's rights or remedies under this Agreement, but subject to Section 2 of Schedule 3.1, the Province will have the following remedies where Supplier fails to complete the following Milestone on or prior to the applicable Milestone Deadline:
- (i) in respect of Milestone 5 in Section 3(c), above, the [Redacted] payable in accordance with Section 1(a)(ii) of Appendix 5.1 will be reduced by [Redacted] for each week after August 1, 2012 that Supplier requires to complete that Milestone; and
 - (ii) in respect of Milestone 8 in Section 3(c), above, the Province may, at its election, extend the Term of this Agreement for the amount of time elapsed between the applicable Milestone Deadline and the actual completion date of Milestone 8 up to a year (extension to be by closest quarter year increment) and each of the scheduled payment dates for the Base Fee payable in accordance with Section 1 (a)(iii) of Appendix 5.1 will be extended by the number of quarter year increments the Province extends the Term pursuant to this Section. The Parties agree that Milestone 8 in Section 3(c) above will not be a Material Milestone for purposes of Section 4 of Schedule 3.1 of the Agreement. The Parties agree that if the Province exercises its right to extend the Term as provided for herein, it shall thereafter not have the right to suspend Project-Related Services under this Appendix as provided for in Section 3 of Schedule 3.1 to the Agreement.

- (e) Province Dependencies. The Province Dependencies for the purposes of this Appendix 2.2 are as set out in the table below. Each Province Dependency will include all functions and responsibilities that are inherent, necessary or customarily provided as part of the Province Dependency, or that are reasonably required for the proper performance of the Province Dependency.

No.	Province Dependency	Milestone Affected	Province Dependency Target Date
1	Province collaborates to the extent reasonably requested by Supplier and agrees to functional and Security design.	1	15-Apr-12
2	Personalization Service Provider collaborates to the extent reasonably requested by Supplier and agrees to functional and Security design.	2	15-Apr-12
3	Province and its applicable Other Service Providers to collaborate to the extent reasonably requested by Supplier and agree to form and content of Supplier Security requirements	3	31-May-12
4	Province to provide "sample white" test Services Cards	4	19-May-12
5	Personalization Service Provider approved as EMV contractor.	5	1-July-12
6	Province to provide production Services Cards	6	31-Aug-12
7	Province and its applicable Other Service Providers to complete integration testing; Province and Personalization Service Provider have production Services Card Status Update capabilities	7	30-Oct-12
8	Province and its applicable Other Service Providers to have completed cutover to production and issued a Services Card.	8	2-Dec-12

APPENDIX 2.3 TO SCHEDULE TO SCHEDULE 1.5
AUTHENTICATION SERVICES

1. Description of Authentication Services. This Section describes certain services, functions, processes and responsibilities that form part of the Services to be provided by the Supplier to the Province pursuant to this SOW.
 - (a) EMV Cryptographic Authentication. Where a Services Card is presented to a Terminal, Supplier will:
 - (i) verify whether (A) the EMV cryptogram produced by the Services Card is valid, meaning the cryptogram was generated by a Services Card produced by the Personalization Service Provider, and (B) the Services Card is active, meaning the Services Card is in an issued state in accordance with the Card Management Database;
 - (ii) where a Services Card is not valid, not active or both, as determined in accordance with paragraph (i), above, (a “**Fail Result**”) Supplier will fail authentication for that Services Card and provide information about the failed authentication results in accordance with paragraph (iii), below;
 - (iii) provide each of the following authentication results to the Province:
 - A. either a Fail Result or, if the Services Card is both valid and active, as determined in accordance with paragraph (i), above, a “**Pass Result**”;
 - B. if a Fail Result, information about failed authentication results, including whether the Services Card is invalid or inactive or both in accordance with the Card Management Database; and
 - C. if a Pass Result, the Card Identifier that corresponds to the Services Card from the Card Management Database.
2. Authentication Specifications. This Section sets out the Specifications and other requirements for the Authentication Services.
 - (a) Authentication Protocols. The Supplier Authentication Services will integrate with the Provinces or its designees identity management systems using the OASIS SAML 2.0 protocol and data formats. The Supplier will provide a technical specification document to the Province that describes the OASIS SAML 2.0 profile.
 - (b) User Interfaces. Supplier will use best efforts to ensure that all user interface for the Authentication Service comply with:
 - (i) W3C’s current Web Content Accessibility Guidelines (WCAG) 2.0 Level AA – guideline 1 and 2 (<http://www.w3.org/TR/WCAG20/>);
 - (ii) the Province’s current web page design standards, including end-user help, links to the Province website, disclaimer, privacy and copyright notices; and
 - (iii) the Province’s current branding requirements, including requirements regarding Supplier’s branding.

(c) Security Specifications.

- (i) The server connections to the Authentication Service must be securely accessible from the Internet from a limited pre-determined numbers of IP addresses provided by the Province.
- (ii) Supplier will provide all SAML and user interfaces using TLS 1.0.

(d) Interoperability.

- (i) The Authentication Services will form part of the technical capability required for the Province and the Supplier to jointly enable identity services in the event they enter into a separate arrangement to provide such services as contemplated in Section 8.13 of the main body of this Agreement.
- (ii) Where an NFC-enabled mobile Terminal has been enabled by Supplier for use with the Authentication Service, the Authentication Service will enable an end-user to associate such Terminal to be used as a card reader.
- (iii) Where an NFC-enabled mobile Terminal has been enabled by Supplier for use with the Authentication Service as a proxy-credential for the Services Card, the Authentication Service will interoperate with such Terminals according to the security policy provided by the Province. Where such proxy-credentials are so enabled, references to Chips and Services Cards in this Agreement will be interpreted under this Agreement with corresponding meanings independent of form factors except to the extent that such an NFC-enabled mobile Terminal used as a proxy-credential offers a different level of security and threat exposure than when used in combination with the associated Services Card.
- (iv) Supplier will provide to the Province with a list of Terminals that interoperate with the Authentication Service for the purposes of end-user support documentation and marketing. This list must be updated on a semi-annual basis.
- (v) The Authentication Services will form part of the technical capability required for the Province to act as a credential service provider, should it enter into a credential service provider agreement with the Supplier. For clarity, additional development and implementation work that may be required of the Province for it to become fully enabled as a credential service provider will be more fully described in such credential service provider agreement.
- (vi) The end-user connections to the Authentication Service must be accessible and functional for end-users of Terminals enabled by Supplier in accordance with Appendix 2.4.

3. Authentication Project Plan. This Section sets out, as of the SOW Effective Date: (1) Supplier's responsibilities in managing and performing the activities necessary to implement the Authentication Services; (2) the Milestones that Supplier will meet in its performance of such activities on or before the deadline designated for each Milestone; and (3) the Province Dependencies applicable to the activities that are subject to Schedule 3.1 of the Agreement. Supplier will be responsible for the management and completion of the activities and tasks described in the Authentication Project Plan, other than the Province Dependencies.

- (a) Test Components, User Acceptance Testing Periods and Acceptance Deadlines. The Test Components and the corresponding User Acceptance Testing Periods and Acceptance Deadlines are set out in the table below for the purposes of this SOW.

No.	Test Component	User Acceptance Testing Period	Acceptance Deadline
1	Authentication with USB Terminal	Commencing on October 15, 2012 and ending on December 15, 2012	December 16, 2012
2	User Interface	Commencing on October 15, 2012 and ending on December 15, 2012	December 16, 2012
3	Reporting	Commencing on October 15, 2012 and ending on December 15, 2012	December 16, 2012
4	Security	Commencing on January 2, 2013 and ending on January 15, 2013	January 16, 2013

- (b) Testing Requirements. For the purposes of this SOW, above, the following Test Components will have the following meanings:

- (i) **“Authentication with USB Terminal”** means testing that the Services Card correctly authenticates with the USB Terminal and Supplier’s authentication system as described in Section 1(a), above, and integrates with the Province’s identity systems described in Section 2(a), above.
- (ii) **“User Interface”** means testing that all Supplier user interfaces conform to requirements set out in this SOW.
- (iii) **“Reporting”** means testing that all Supplier reports as defined in Section 4.1 of the main body of this SOW are correctly provided to the Province’s systems.
- (iv) **“Security”** means testing that the Supplier’s authentication system is resistant to security threats using industry standard security testing tools.

- (c) Milestones. On or before each of the dates set out in the table below in the column under the heading “Milestone Deadline”, Supplier will complete the corresponding Milestone described in the column under the heading “Completed Milestone”.

No.	Completed Milestone	Milestone Deadline
1	Authentication interface functional design complete	30-May-12
2	Security design complete	30-May-12

No.	Completed Milestone	Milestone Deadline
3	User Interface design complete	30-Jun-12
4	Reporting design complete	30-Jun-12
5	Supplier to provide test environment with test harness for testing without Services Cards	01-Jul-12
6	Supplier to provide test environment for testing with Services Cards	15-Oct-12
7	Supplier integration testing complete	15-Dec-12
8	Authentication Services are production ready in accordance with this Agreement	02-Jan-13
9	Supplier Security testing complete	15-Jan-13
10	Authentication Services is in full operation in accordance with this Agreement and the Service Levels for such Services are in effect	01-Feb-13

The Specifications for each of the various designs referenced in the table above, once agreed to by the Parties and set out in writing, will be used to determine whether the design is complete for purposes of this SOW. All such Specifications must comply with this Agreement.

- (d) Province Dependencies. The Province Dependencies for the purposes of this Appendix 2.2 are as set out in the table below. Each Province Dependency will include all functions and responsibilities that are inherent, necessary or customarily provided as part of the Province Dependency, or that are reasonably required for the proper performance of the Province Dependency.

No.	Province Dependency	Milestone Affected	Province Dependency Target Date
1	Province collaborates to the extent reasonably requested by Supplier and agrees to interface functional design.	1	30-May-12
2	Province collaborates to the extent reasonably requested by Supplier and agrees to form and content of Security requirements.	2	30-May-12
3	Province collaborates to the extent reasonably requested by Supplier and agrees to User Interface design.	3	30-Jun-12
4	Province collaborates to the extent reasonably requested by Supplier and agrees to reporting design.	4	30-Jun-12
5	Same as milestone 1	5	30-May-12
6	Province to have test environment available to Supplier	6	30-Sep-12

No.	Province Dependency	Milestone Affected	Province Dependency Target Date
7	Province collaborates, to the extent reasonably requested by Supplier, on execution of Supplier test plan	7	01-Dec-12
8	Province has started issuing production cards	8	01-Dec-12
9	Province has production authentication service ready	8	02-Jan-13
10	Province collaborates to the extent reasonably requested by Supplier and agrees on Security test plan	9	15-Dec-12
11	Province to sign off Security test report	10	16-Jan-13
12	Province collaborates to the extent reasonably requested by Supplier and agrees to interface functional design.	11	30-May-12
13	Province collaborates to the extent reasonably requested by Supplier and agrees to form and content of Security requirements.	12	30-May-12

APPENDIX 2.4 TO SCHEDULE TO SCHEDULE 1.5
TERMINAL EQUIPMENT SERVICES

1. Description of Terminal Equipment Services. This Section describes certain services, functions, processes and responsibilities that form part of the Terminal Equipment Services to be provided by the Supplier to the Province pursuant to this SOW.
 - (a) Offering of Terminals. Supplier will provide USB Terminals to the Province at the pricing set out in Appendix 5.1, including providing at least one USB Terminal priced in accordance with Section 2(a) of Appendix 5.1. Supplier will notify the Province if and when its USB display Terminal becomes commercially available.
 - (b) Warranty. Supplier will ensure that all USB Terminals purchased by the Province from Supplier are warranted as follows:
 - (i) all USB Terminals will carry a full manufacturer's warranty with a 12 month warranty period or a warranty that the Province agrees in writing to be equivalent;
 - (ii) Supplier will manage and interact with all manufacturers of the USB Terminals in respect of all warranty replacement or repair requests on behalf of the Province; and
 - (iii) irrespective of any manufacturer's warranty, all USB Terminals will be of merchantable quality.
 - (c) Warranty Service. For a period ending the later of the expiry of the applicable warranty period, for such USB Terminals, Supplier will promptly replace defective USB Terminals at its cost without any Fees (including charges for parts, labour, shipping, and taxes) payable by the Province. Supplier will assume risk of loss for the return of Terminals for replacement and subsequent delivery back to the Supplier.
 - (d) Support. Supplier will provide Tier 3 support to the Province for USB Terminals purchased by the Province and will provide to the Province sufficient support materials in order for the Province to provide Tier 1 and Tier 2 support for such USB Terminals.
 - (e) Demonstration Models. Supplier will provide a reasonable number of demonstration models of USB Terminals to the Province to satisfy its testing and approval requirements prior to the purchase of such Terminals.
 - (f) Software Updates/Fixes/Patches. Supplier will apply available patches, fixes and updates to the software installed on Terminals deployed by the Province via an automatic online process.
2. Terminal Equipment Services Specifications. This Section sets out the Specifications and other requirements for the Terminal Equipment Services.
 - (a) The USB Terminals provided to the Province by Supplier are not required to be EMV compliant to be used with the Services Card and the Authentication Services.
 - (b) Supplier intends that the USB Terminals will support as many of the common and popular platforms and browsers as is feasible in its sole discretion and upon request shall provide the Province with a current list of such supported platforms and browsers.

- (c) Notwithstanding the provisions of Sections 3.4 and 3.5 of the main body of the Agreement and Appendix 2.5 of this SOW: (i) the Province shall not be entitled to a Service Level Credit for any Service Level Failure relating to the performance of USB Terminals purchased by the Province or the Supplier’s timeliness of response to Incidents relating to USB Terminals purchased by the Province; and (ii) Priority Level, response targets and Restoration Times with respect to such Incidents shall be as set out below (and deemed to be Priority Levels, response targets and Response Times for purposes of applying Schedule 3.5 of the Agreement to Supplier’s performance of SOW Services with respect to USB Terminals purchased by the Province):

Priority Level	Response Target*	Restoration Time*
1	N/A	N/A
2	2 hours	N/A
3	1 Business Day	N/A
4	1 Business Day	N/A

* Supplier’s ability to remotely diagnose and respond to Incidents by the applicable response target set out above is dependent on cooperation by the end user and connection of the affected USB Terminal to the Internet.

Priority Level	Description
2 (Urgent)	<p>A problem that causes widespread and consistent failure of USB Terminals purchased by the Province</p> <p>Business impact on the Province :</p> <ul style="list-style-type: none"> extensive service impact on a material number of end users.
3 (Minor)	<p>A problem that causes isolated failures of USB Terminals purchased by the Province, for which there is an acceptable workaround (e.g., a software update or delivery of a replacement unit).</p> <p>Business impact on the Province :</p> <ul style="list-style-type: none"> minor inconvenience for a limited number of end users.
4 (Non-Impacting)	<p>A problem that has no material impact on the use of the USB Terminals purchased by the Province. For example:</p> <ul style="list-style-type: none"> end user need for technical support to complete activation or first use of the USB Terminal. <p>Business impact on the Province:</p> <ul style="list-style-type: none"> no material impact.

3. Terminal Equipment Project Plan. This Section sets out, as of the SOW Effective Date: (1) Supplier’s responsibilities in managing and performing the activities necessary to implement the Terminal Equipment Services; (2) the Milestones that Supplier will meet in its performance of such activities on or before the deadline designated for each Milestone; and (3) the Province Dependencies applicable to the activities that are subject to Schedule 3.1 of the Agreement.

Supplier will be responsible for the management and completion of the activities and tasks described in the Terminal Equipment Project Plan, other than the Province Dependencies.

- (a) Test Components, User Acceptance Testing Periods and Acceptance Deadlines. The Test Components and the corresponding User Acceptance Testing Periods and Acceptance Deadlines are set out in the table below for the purposes of this SOW.

No.	Test Component	User Acceptance Testing Period	Acceptance Deadline
1	USB Terminal	Commencing on October 15, 2012 and ending on December 15, 2012	December 16, 2012

- (b) Testing Requirements. For the purposes of the table set out in Section 3(a), above, the following Test Components will have the following meanings:

- (i) “**USB Terminal**” means testing that the USB Terminal device functions correctly on supported personal computers and with the Authentication Services and with the Services Cards.

- (c) Milestones. On or before each of the dates set out in the table below in the column under the heading “Milestone Deadline”, Supplier will complete the corresponding Milestone described in the column under the heading “Completed Milestone”.

No.	Completed Milestone	Milestone Deadline
1	USB Terminal available for purchase with volumes and delivery dates subject to Supplier’s ordering and lead time requirements and available manufacturing capacity	December 16, 2012

Subject to availability in the global supply chain, Supplier’s lead times for token ordering are as follows: (i) for 100 tokens, three weeks; (ii) for 1,000 tokens, six weeks; and (iii) for 20,000, three months; provided, however, that these lead times may be shortened if the Province provides sufficient forecasting commitments.

- (d) Province Dependencies. The Province Dependencies for the purposes of this Appendix 2.2 are as set out in the table below. Each Province Dependency will include all functions and responsibilities that are inherent, necessary or customarily provided as part of the Province Dependency, or that are reasonably required for the proper performance of the Province Dependency.

No.	Province Dependency	Milestone Affected	Province Dependency Target Date
1	Province to sign off USB terminal test report	1	December 16, 2012

APPENDIX 2.5 TO SCHEDULE 1.5
SERVICE LEVELS FOR SOW SERVICES

1. Service Levels for Measured SOW Services. The Service Levels for the SOW Services are as set out in separate tables below. Each table sets out the definitions, formula and methodology to be used to calculate the performance of the SOW Services to which applicable Service Level applies, and to determine whether or not a Service Level Credit is payable and whether or not a Critical Threshold has occurred. Each SOW Service to which a Service Levels relates will be a Measured Service.

Reference Number:	CM&AS-SL-01
Service Level Name:	Authentication Services Availability
Service Level Requirement:	Service Availability Percentage > 99.8%
Definitions:	<p>“Total Downtime” means the sum of all minutes the Authentication Service is unavailable as a result of a Priority Level 1 Incident during the Measurement Period, excluding mutually agreed planned outages and maintenance windows (which are subject to cancellation by the Province upon at least 24 hours advance notice to Supplier).</p> <p>“Total Possible Uptime” means the sum of all minutes during the Measurement Period (e.g. 60 minutes x 24 hours x number of days in the Measurement Period), excluding time accrued for Excluded Events.</p>
Measurement Methodology:	Supplier monitoring tools using polling and alarms.
Measurement Period:	Monthly
Measurement Calculation:	Service Availability Percentage = $100 - (100 \times \text{Total Downtime} / \text{Total Possible Uptime})$
Special Reporting Requirements:	N/A
Critical Threshold:	Any two consecutive Service Level Failures or four Service Level Failures in any 12 month rolling period for this Service Level will result in immediate escalation to the Joint Executive Committee for resolution.
Initial Weighting Factor:	50%

Reference Number:	CM&AS-SL-02
Service Level Name:	P1 & P2 Time to Restore
Service Level Requirement:	Standard Time to Restore Rate \geq 95%, and Maximum Time to Restore Rate = 100%, and
Definitions:	<p>“Standard Compliant Restoration Time” means Resolution or Restoration is achieved for an Incident that is a Priority Level 1 or Priority Level 2 in the applicable Restoration Time set out in Section 6 of Schedule 3.5 of the Agreement for that Priority Level.</p> <p>“Maximum Compliant Restoration Time” means Resolution or Restoration is achieved for an Incident that is a Priority Level 1 or Priority Level 2 in a time that is greater than two times the applicable Restoration Time set out in Section 6 of Schedule 3.5 of the Agreement for that Priority Level.</p>
Measurement Methodology:	Trouble Ticket system
Measurement Period:	Monthly
Measurement Calculation:	<p>Standard Time to Restore Rate = (total number of Standard Compliant Restoration Times in the Measurement Period) / (total number Incident that are Priority Level 1 or Priority Level 2 in Measurement Period) x 100</p> <p>Maximum Time to Restore Rate = (total number of Maximum Compliant Restoration Times in the Measurement Period) / (total number Incident that are Priority Level 1 or Priority Level 2 in Measurement Period) x 100</p>
Special Reporting Requirements:	N/A
Critical Threshold:	Any two consecutive Service Level Failures or four Service Level Failures in any 12 month rolling period for this Service Level will result in immediate escalation to the Joint Executive Committee for resolution.
Initial Weighting Factor:	50%

Reference Number:	CM&AS-SL-03
Service Level Name:	P3 & P4 Time to Restore
Service Level Requirement:	Time to Restore Rate \geq 95%
Definitions:	“ Compliant Restoration Time ” means Resolution or Restoration is achieved for an Incident that is a Priority Level 3 or Priority Level 4 in the applicable Restoration Time set out in Section 6 of Schedule 3.5 of the Agreement for that Priority Level.
Measurement Methodology:	Trouble Ticket system
Measurement Period:	Monthly
Measurement Calculation:	Time to Restore Rate = (total number of Compliant Restoration Times in the Measurement Period) / (total number Incident that are Priority Level 3 or Priority Level 4 in Measurement Period) x 100
Special Reporting Requirements:	N/A
Critical Threshold:	N/A
Initial Weighting Factor:	25%

Reference Number:	CM&AS-SL-04
Service Level Name:	Card Management Processing Time
Service Level Requirement:	Processing Time Rate \geq 95%
Definitions:	“ Compliant Processing Time ” means a Services Card status updates is processed within the timeframe set out in Section 1(d) of Appendix 2.2, such that the Card Management Database will provide the updated information if queried.
Measurement Methodology:	Measured from the time an update file is received by the Supplier’s designated update server until the file has been processed by the CMS and updates are available via applicable interfaces.
Measurement Period:	Monthly
Measurement Calculation:	Processing Time Rate = (total number of Compliant Processing Times in the Measurement Period) / (total number of Services Card status updates in Measurement Period) x 100
Special Reporting Requirements:	N/A
Critical Threshold:	Any two consecutive Service Level Failures or four Service Level Failures in any 12 month rolling period for this Service Level will result in immediate escalation to the Joint Executive Committee for resolution.
Initial Weighting Factor:	45%

Reference Number:	CM&AS-SL-05
Service Level Name:	Authentication Processing Time
Service Level Requirement:	Hourly Average Processing Time Rate > 95%; and Daily Average Processing Time Rate > 95%.
Definitions:	<p>“Authentication Processing Measure” means the measurement of the time from when a Services Card communicates with a Terminal until the time when Supplier provides authentication results to the Province in accordance with Appendix 2.3.</p> <p>“Compliant Daily Average Processing Time” means Daily Average Processing Time \leq 2 seconds.</p> <p>“Hourly Daily Average Processing Time” means Hourly Average Processing Time \leq 2 seconds.</p> <p>“Sum of Daily Processing Measures” means the aggregate sum of all Authentication Processing Measures for a single day in the Measurement Period as determined in accordance with the Measurement Methodology.</p> <p>“Sum of Hourly Processing Measures” means the aggregate sum of all Authentication Processing Measures for a single hour in the Measurement Period as determined in accordance with the Measurement Methodology.</p> <p>“Number of Daily Processing Measures” means the total number of Authentication Processing Measures for a single day in the Measurement Period as determined in accordance with the Measurement Methodology.</p> <p>“Number of Hourly Processing Measures” means the total number of Authentication Processing Measures for a single hour in the Measurement Period as determined in accordance with the Measurement Methodology.</p>
Measurement Methodology:	Measured from the time an authentication request is fully received on the Supplier platform including processing time and excluding user interaction time until a response request is initiated by the Supplier platform.
Measurement Period:	Monthly
Measurement Calculation:	<p>Hourly Average Processing Time = (Sum of Hourly Processing Measures / Number of Processing Measures) as calculated for each and every hour in the Measurement Period</p> <p>Daily Average Processing Time = (Sum of Daily Processing Measures / Number of Daily Processing Measures) as calculated for each and every day in the Measurement Period</p> <p>Hourly Average Processing Time Rate = (total number of Compliant Daily Average Processing Times in the Measurement Period) / (total number of days in the Measurement Period) x 100</p>

Reference Number:	CM&AS-SL-05
	Hourly Average Processing Time Rate = (total number of Compliant Hourly Average Processing Times in the Measurement Period) / (total number of hours in the Measurement Period) x 100
Special Reporting Requirements:	N/A
Critical Threshold:	Any two consecutive Service Level Failures or four Service Level Failures in any 12 month rolling period for this Service Level will result in immediate escalation to the Joint Executive Committee for resolution.
Initial Weighting Factor:	50%

Reference Number:	CM&AS-SL-06
Service Level Name:	Administrative Processing Time
Service Level Requirement:	Processing Time Rate \geq 95%
Definitions:	“ Compliant Processing Times ” means a report or invoice required to be delivered to the Province under this Agreement is delivered by the date such report or invoice is required to be delivered in accordance with the requirements of this Agreement.
Measurement Methodology:	Measured through request ticketing system.
Measurement Period:	Monthly
Measurement Calculation:	Processing Time Rate = (total number of Compliant Processing Times in the Measurement Period) / (total number of reports and invoices required to be delivered in the Measurement Period) x 100
Special Reporting Requirements:	N/A
Critical Threshold:	N/A
Initial Weighting Factor:	5%

APPENDIX 5.1 TO SCHEDULE 1.5
FEES

[Redacted]