Attachment 4.2

Canada Border Services Agency Data Warehouse Foundation

Data Management & Data Warehouse

RATED REQUIREMENTS

The following rated requirements may form part of the mandatory Technical Requirements of the Statement of Requirements (SOR) based on the results of its evaluation and Proof of Proposal Testing. Those requirements, for which the Bidder claims and receives points, will become mandatory requirements going forward. The successful Bidder will be required to fulfill each of the requirements listed in the SOR following contract award.

The Bidder must obtain a minimum of 70 % (889 points) total points overall for the rated requirements.

3.0 Technical Requirements

3.1 General Requirements

The Bidder should identify in sufficient scripted detail the manner in which their solution would integrate with the existing DB2 z/OS database engine seamlessly, such that existing DB2z/OS based queries will not have to be modified to exploit the solution and the existing DB2 optimizer recognizes solution as an option.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (15 points): The Bidder's solution would integrate with the existing DB2 z/OS database engine seamlessly; such that, existing DB2z/OS based queries will not have to be modified to exploit the solution and the existing DB2 optimizer recognizes solution as an option.	15	
<u>20% (3 points):</u> The Bidder's solution would integrate with the existing DB2 z/OS database engine seamlessly but existing DB2z/OS based queries will have to be modified to exploit the solution or the existing DB2 optimizer does not recognize solution as an option.		
<u>0% (0 points)</u> : The Bidder's solution does not integrate with the existing DB2 z/OS database engine seamlessly		

Bidder Response to Article 3.1.4

Location of response within proposal

i.e. (Page & Reference No.)

3.1.16 The Bidder should identify in sufficient scripted detail the manner in which the solution would be shipped and received by the Agency in a Ready for Use state (notwithstanding the time added due to the Agency's own processes that are necessary to get the product RFU).

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (15 points): The Bidder's solution is Ready for Use within 24 hours of delivery.	15	
60% (9 points) : The Bidder's solution takes between 24 to 72 hours of delivery to be		

Ready for Use.		
30% (4.5 points): The Bidder's so be Ready for Use	lution takes is between 72 to 120 hours of delivery to	
<u>0% (0 points)</u> : The Bidder's soluti Ready for Use	on takes more than 120 hours of delivery to be	
Bidder Response to Article 3.1.16		
Location of response within proposal		
i.e. (Page & Reference No.)		

3.3 Scalability Requirement

3.3.2 Configuration and Capacity

The Bidder should identify in sufficient scripted detail the manner in their solution includes hardware scalability without imposition of downtime as an option. (For the purposes of evaluation, the Bidder should use an effort of scaling from 100 TB to 200 TB of usable storage)

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (60 points): The Bidder's solution includes hardware scalability from 100TB to 200TB of raw data without imposition of downtime.	60	
50% (30 points): The Bidder's solution includes hardware scalability from 100TB to 200TB of raw data with an imposition of downtime of less than 30 minutes.		
<u>0 % (0 points</u>): The Bidder's solution includes hardware scalability from 100TB to 200TB of raw data with an imposition of downtime of more than 30 minutes.		

200TB of raw data with an imposition of downtime of more than 30 minutes.	
Bidder Response to Article 3.3.2.8	
Location of response within proposal	
i.e. (Page & Reference No.)	

3.4 Query Processing

3.4.3 The Bidder should identify in sufficient scripted detail the level of their solution's existing capability to improve the total baseline query elapsed time of 200 seconds to execute the 5 queries as described in Mandatory Article 3.4.2.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (160 points): The Bidder's solution provides an elapsed speed of less than 50 seconds	160	
80% (128 points): The Bidder's solution provides an elapsed speed of between 51 and 75 seconds		
60% (96 points): The Bidder's solution provides an elapsed speed of between 76 and 100 seconds		
20% (32 points): The Bidder's solution provides an elapsed speed of between 101 and 150 seconds		
0% (0 points): The Bidder's solution provides an elapsed speed of over 150 seconds		

Bidder Response to Article 3.4.3

Location of response within proposal

i.e. (Page & Reference No.)

The Bidder should identify in sufficient scripted detail the level of their solution's existing capability to improve the simultaneous query elapsed time of 500 seconds to execute the 5 queries as described in Mandatory Article 3.4.5.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (160 points): The Bidder's solution provides an elapsed speed of less than 125 seconds	160	
80% (128 points): The Bidder's solution provides an elapsed speed of between 126 and 200 seconds		
60% (96 points): The Bidder's solution provides an elapsed speed of between 201 and 300 seconds		
20% (32 points): The Bidder's solution provides an elapsed speed of between 301 and 449 seconds		
0% (0 points): The Bidder's solution provides an elapsed speed of over 450 seconds		

Bidder Response to Article 3.4.6

Location of response within proposal

i.e. (Page & Reference No.)

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3.4.9 The Bidder should identify in sufficient scripted detail the level of their solution's existing capability to improve the total baseline query elapsed time of 1,000 seconds to execute the 5 queries as described in Mandatory Article 3.4.8.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (160 points): The Bidder's solution provides an elapsed speed of less than 250 seconds 80% (128 points): The Bidder's solution provides an elapsed speed of between 251 and 350 seconds	160	
60% (96 points): The Bidder's solution provides an elapsed speed of between 351 and 500 seconds		
20% (32 points): The Bidder's solution provides an elapsed speed of between 501 and 800 seconds		
0% (0 points): The Bidder's solution provides an elapsed speed of over 800 seconds		

Bidder Response to Article 3.4.9

Location of response within proposal

i.e. (Page & Reference No.)

3.5 Monitoring

The Bidder should identify in sufficient scripted detail the manner in which their active process management solution is GUI based.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (20 points): The Bidder's active process management facility is GUI based.	20	
0% (0 points): The Bidder's active process management facility is not GUI based		

Bidder Response to Article 3.5.4	
Location of response within proposal	
i.e. (Page & Reference No.)	

3.6 Usage Tracking (Real Time)

The Bidder's should identify in sufficient scripted detail the manner in which their solution includes "real time" reports that display top-n (variable) resource consumers and level of resources being consumed

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (20 points): The Bidder's solution includes "real time" reports that display top-n (variable) resource consumers and level of resources being consumed where n can be a numerical integer having a value up from 1 to at least 10.	20	
<u>0% (0 points)</u> : The Bidder's solution includes "real time" reports that display resource consumers and the level of resources being consumed however top-n functionality is not included.		

Bidder Response to Article 3.6.3

Location of response within proposal

i.e. (Page & Reference No.)

3.7 Usage Tracking (Historical)

The Bidder's solution should include the capability for the Agency to obtain index utilization reports which show indexes and their usage over configurable time periods via a GUI interface

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (10 points): The Bidder's solution can display index usage reports over configurable time periods via a GUI interface.	10	
50% (5 points): The Bidder's solution can display index usage reports over configurable time periods via non-GUI output.		

0% (0 poin	ts): The Bidder's soluti	on does not offer this feature.		
Bidder Res 3.7.1	sponse to Article			
Location o proposal	Location of response within proposal			
i.e. (Page &	& Reference No.)			
3.7.6		entify in sufficient scripted detail the manner in which the tities not used or used infrequently over a stated time p		th amount
	EV	ALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (10 used infre		s solution can display Database entities not used or me period along with amount of usage.	10	
		olution can display Database entities not used or me period but does not show amount of usage.		
<u>0% (0 poi</u>	0% (0 points) The Bidder's solution does not offer this feature.			
3.7.6	Bidder Response to Article 3.7.6 Location of response within			
proposal	& Reference No.)			
(1 age (2.1.5.0.0.00			
3.7.8		entify in sufficient scripted detail the manner in which the nfigurable variable time period of hours or days, based		
	EV	ALUATION CRITERIA	Maximum Points Available	Bidder's Score
queries for of times a c	a configurable variable query was executed.	blution includes the capability to display the top-n time period of hours or days, based on the number	10	
queries for		on does not include the capability to display the top-n time period of hours or days, based on the number		

Bidder Response to Article 3.7.8

Location of response within proposal

i.e. (Page & Reference No.)

3.7.9 The Bidder should identify in sufficient scripted detail the manner in which their solution displays the top-n queries for a configurable variable time period of hours or days, based on the average or total amount of memory used during the single execution of a query

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (10 points): The Bidder's solution includes the capability to display the top-n queries for a configurable variable time period of hours or days, based on the amount of memory used during the single execution of a query	10	
<u>0% (0 points):</u> The Bidder's solution does not include the capability to display the top- n queries for a configurable variable time period of hours or days, based on the amount of memory used during the single execution of a query		

Bidder Response to Article 3.7.9

Location of response within proposal

i.e. (Page & Reference No.)

3.7.10

The Bidder should identify in sufficient scripted detail the manner in which their solution displays the top-n queries for a configurable variable time period of hours or days, based on the average or total amount of memory used by the repeated execution of a query.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score	
100% (10 points): The Bidder's solution includes the capability to display the top-n queries for a configurable variable time period of hours or days, based on the average or total amount of memory used by the repeated execution of a query.	10		
<u>0% (0 points):</u> The Bidder's solution does not include the capability to display the top-n queries for a configurable variable time period of hours or days, based on the average or total amount of memory used by the repeated execution of a query.			

Bidder Response to Article 3.7.10

Location of response within proposal

i.e. (Page & Reference No.)

The Bidder should identify in sufficient scripted detail the manner in which their solution displays the top-n queries for a configurable variable time period of hours or days, based on the average or total amount of CPU used during the single execution of a query.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (10 points): The Bidder's solution includes the capability to display the top-n queries for a configurable variable time period of hours or days, based on the amount of CPU used during the single execution of a query	10	
<u>0% (0 points):</u> The Bidder's solution does not include the capability to display the top-n queries for a configurable variable time period of hours or days, based on the amount of CPU used during the single execution of a query		

Bidder Response to Article 3.7.11

Location of response within proposal

i.e. (Page & Reference No.)

3.7.12

The Bidder should identify in sufficient scripted detail the manner in which their solution displays the top-n queries for a configurable variable time period of hours or days, based on the average or total amount of CPU used by the repeated execution of a query.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (10 points): The Bidder's solution includes the capability to display the top-n queries for a configurable variable time period of hours or days, based on the average or total amount of CPU used by the repeated execution of a query.	10	
0% (0 points): The Bidder's solution does not include the capability to display the top-n queries for a configurable variable time period of hours or days, based on the average or total amount of CPU used by the repeated execution of a query.		

Bidder Response to Article 3.7.12

Location of response within proposal

i.e. (Page & Reference No.)

3.7.13 The Bidder should identify in sufficient scripted detail the manner in which their solution displays the top-n queries for a configurable variable time period of hours or days, based on the average or total number of rows selected, read, inserted, updated or deleted during the single execution of a query.

Evaluation Criteria	Maximum Points Available	Bidder's Score
100% (10 points): The Bidder's solution includes the capability to display the top-n queries for a configurable variable time period of hours or days, based on the number of rows selected, read, inserted, updated or deleted during the single execution of a query.	10	
0% (0 points): The Bidder's solution does not include the capability to display the top-n queries for a configurable variable time period of hours or days, based on the number of rows selected, read, inserted, updated or deleted during the single execution of a query		

Bidder Response to Article 3.7.13

Location of response within proposal

i.e. (Page & Reference No.)

3.7.14

The Bidder should identify in sufficient scripted detail the manner in which their solution displays the top-n queries for a configurable variable time period of hours or days, based on the average or total number of rows selected, read, inserted, updated or deleted by the repeated execution of a query.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (10 points): The Bidder's solution displays the top-n queries for a configurable variable time period of hours or days, based on the average or total number of rows selected, read, inserted, updated or deleted by the repeated execution of a query.	10	
<u>0% (0 points):</u> The Bidder's solution does not display the top-n queries for a configurable variable time period of hours or days, based on the average or total number of rows selected, read, inserted, updated or deleted by the repeated execution		

of a query.		
Bidder Response to Article 3.7.14		
Location of response within proposal		
i.e. (Page & Reference No.)		

3.8 Health/Event Monitoring

The Bidder should identify in sufficient scripted detail the manner in which their solution includes a feature which will detect current or impending problems and notify via alerts.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (15 points): The Bidder's solution includes a feature which detects current or impending problems and will send alert notices.	15	
50% (7.5 points): The Bidder's solution includes a feature which detects current or impending performance problems but will not send alert notices.		
<u>0% (0 points):</u> The Bidder's solution does not include a feature to detect current or impending problems.		

Bidder Response to Article 3.8.2

Location of response within proposal

i.e. (Page & Reference No.)

3.8.3 The Bidder should identify in sufficient scripted detail the manner in which their solution includes a tool / facility which will produce tuning recommendations to correct performance problems

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (15 points): The Bidder's solution includes a feature which produces tuning recommendations to correct performance problems.	15	
<u>0% (0 points):</u> The Bidder's solution does not include a feature which produces tuning recommendations to correct performance problems.		

Bidder Response to Article 3.8.3	
Location of response within proposal	
i.e. (Page & Reference No.)	

3.9 Setup/Configuration Overhead

The Bidder should include sufficient scripted detail to identify how their solution will not require the Agency to allocate, calculate or define physical storage characteristics before data is loaded to achieve optimality. (EG. details for page/block/extent sizing)

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (90 points): The Bidder's solution does not require the Agency to allocate, calculate or define physical storage characteristics before data is loaded to achieve optimality.	90	
<u>50% (45 points):</u> The Bidder's solution does not require the Agency to allocate, calculate or define physical storage characteristics before data is loaded but there is no expectation for optimality.		
<u>0% 0 points):</u> The Bidder's solution requires the Agency to allocate, calculate or define physical storage characteristics before data is loaded		

Bidder Response to Article 3.9.1

Location of response within proposal

i.e. (Page & Reference No.)

The Bidder should include sufficient scripted detail to identify how their solution will not require the Agency to create additional indexes other than primary key on tables to achieve optimal query performance.

optimal query performance.		
Bidder Response to Article 3.9.2		
Location of response within proposal		
i.e. (Page & Reference No.)		

3.10 Central Management

The Bidder should identify in sufficient scripted detail the manner in which their active process management solution is GUI based.				
EVALUATION CRITERIA Maximum Points Available Score				
100% (20 points): The active process management solution is GUI based.				
0% (0 points): The active process management solution is not GUI based.				
Bidder Res 3.10.8	sponse to Article			
Location of proposal	Location of response within proposal			

3.11 Data Technology and Integrity

i.e. (Page & Reference No.)

3.11.3	The Bidder should identify in sufficient scripted detail the manner in which their solution includes declarative database enforced referential integrity between tables.		
EVALUATION CRITERIA		Maximum Points Available	Bidder's Score
100% (20 points): The Bidder's solution includes declarative database enforced referential integrity between tables.		20	
<u>0% (0 points):</u> The Bidder's solution does not include a declarative database enforced referential integrity between tables.			

Bidder Response to Article 3.11.3	
Location of response within proposal	
i.e. (Page & Reference No.)	

The Bidder should identify in sufficient scripted detail how data may be optionally inserted in columnar format instead of standard row based format and subsequently updatable.

EVALUATION CRITERIA	Maximum Points	Bidder's
LVALUATION ONTENIA	Available	Score
100% (70 points): Data may be optionally inserted in columnar format and thereafter		
be updatable.	70	
20% (14 points): Data may be optionally inserted in columnar format but not subsequently updatable.		
0% (0 points): Data cannot be inserted in columnar format		

Bidder Response to Article 3.11.4

Location of response within proposal

i.e. (Page & Reference No.)

3.12 Database Access

3.12.4 The Bidder's proposal should identify in sufficient scripted detail the manner in which their solution includes capability for pre-compiling of SQL statements for use by COBOL.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (10 points): The Bidder's solution includes the ability to perform pre-compiling of SQL statements for use by COBOL	10	
<u>0% (0 points):</u> The Bidder's solution does not include the ability to perform precompiling of SQL statements for use by COBOL		

Bidder Response to Article 3.12.4

Location of response within proposal

i.e. (Page & Reference No.)

3.12.5 The Bidder's proposal should identify in sufficient scripted detail the manner in which their solution includes the capability to perform pre-compiling of SQL statements for use by JAVA (SQLJ).

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (10 points): The Bidder's solution includes the ability to execute static SQL using SQLJ and embedded SQL in JAVA.	10	
<u>25% (2.5 points):</u> The Bidder's solution includes the ability to execute static SQL using stored procedures.		
0% (0 points): The Bidder's solution does not include the ability to execute static SQL.		

Bidder Response to Article 3.12.5

Location of response within proposal

i.e. (Page & Reference No.)

The Bidder's proposal should identify in sufficient scripted detail the manner in which their solution includes mechanisms to insert, update, delete, index and query XML data in its native format.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (10 points): The Bidder's solution includes the ability to store XML data in native XML format.	10	
50% (5 points): The Bidder's solution includes the ability to index nodes within an XML structure.		
0% (0 Points): The Bidder's solution does not include the ability to either store XML data in native XML format or index nodes within an XML structure		

3.13 Tools

3.13.3 The Bidder should identify in sufficient scripted detail the manner in which their solution includes a GUI based capability that includes database lifecycle provisioning for the solution's configuration management.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (15 points): The Bidder's solution includes a GUI based capability that includes full lifecycle provisioning for the solution's configuration management. Configurable parameters are contained, managed and maintained from one location and migrated to different target environments when required.	15	
<u>50% (7.5 points):</u> The Bidder's solution includes a non-GUI based capability that includes full lifecycle provisioning for the solution's configuration management or configurable parameters are not contained, managed and maintained from one location.		
0% (0 points): The Bidder's solution does not include such a capability.		

Bidder Response to Article 3.13.3

Location of response within proposal

i.e. (Page & Reference No.)

3.14 Utilities

3.14.7 The Bidder's proposal should identify in sufficient scripted detail the manner in which their solution provides automatic data re-organization capability which is based on set thresholds determined by the Agency.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (15 points): The Bidder's solution includes automatic data re-organization capability based on set thresholds as determined by the Agency. Furthermore it offers	15	

scheduling of the automatic execu	tion.		
50% (7.5 points): The Bidder's solution includes automatic data re-organization capability based on set thresholds as determined by the Agency. But, execution of the reorg is Immediate when threshold is reached and not schedulable.			
0% (0 points): The Bidder's solution set thresholds.	on does not include automatic data capability based		
Bidder Response to Article 3.14.7			
Location of response within proposal			
i.e. (Page & Reference No.)			

3.15 Backup and Recovery

3.15.10 The Bidder should describe in sufficient scripted detail how their solution includes the capability to restore a complete database to an alternate location, thereby keeping the original database intact.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (40 points): The Bidder's solution includes the capability to restore a complete database to an alternate location, thereby keeping the original database intact without need for Agency development	40	
<u>0% (0 points):</u> The Bidder's solution requires Agency development or additional (non-solution included) software		

Bidder Response to Article 3.15.10

Location of response within proposal

i.e. (Page & Reference No.)

3.15.11

The Bidder should describe in sufficient scripted detail how the solution allows either entire database, a set of tables, a single table, part of a table, or parts of a table to be recovered to a user-specified point in time using roll forward recovery.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (40 points): The Bidder's solution allows recovery to a user specified point in time for an entire database, a set of tables, a single table, part of a table or parts of a	40	

table using roll-forward recovery. 20% (8 points): The Bidder's solution only supports roll-forward recovery when recovering an entire database. **0% (0 points):** The Bidder's solution does not support roll-forward recovery. **Bidder Response to Article** 3.15.11 Location of response within proposal i.e. (Page & Reference No.) The Bidder should identify in sufficient scripted detail the manner in which their solution would re-3.15.13 apply all committed database changes (logged but possibly not written to the database) and undo all uncommitted database changes after the point of failure. Maximum Bidder's **EVALUATION CRITERIA Points** Score Available 100% (40 points): The Bidder's solution includes the capability to re-apply all committed database changes (logged but possibly not written to the database) and 40 undo all uncommitted database changes after point of failure. 0% (0 points): The Bidder's solution does not include the capability to re-apply all committed database changes (logged but possibly not written to the database) and undo all uncommitted database changes after point of failure. **Bidder Response to Article** 3.15.13 Location of response within proposal

3.17 Disaster or Elongated Outage Availability

i.e. (Page & Reference No.)

3.17.8	The Bidder should identify in sufficient scripted detail the manner in which the solution would
	implement an automated hot-site failover to a secondary data center in the case where an interruption
	at Primary Site causes Critical Data Mart damage or unavailability. This scenario must also indicate
	degree of data loss expected.
	·

EVALUATION CRITERIA		Bidder's Score
100% (50 points): The Bidder's solution would implement an automated hot-site		

causes Critical Data Mart damage	r in the case where an interruption at Primary Site or unavailability. The solution would include no already committed to that Critical Mart at Primary	50	
<u>0% (0 points):</u> The Bidder's solution would require human intervention for a hot-site failover to a secondary data center in the case where an interruption at Primary Site causes Critical Data Mart damage or unavailability, or in the case of the solution incurring any level of data loss of inbound transactions already committed to that Critical Mart at Primary Site.			
Bidder Response to Article 3.17.8			
Location of response within proposal			
i.e. (Page & Reference No.)			

3.20 Access Control

3.20.13

3.20.8 The Bidder's solution should describe in sufficient scripted detail, the manner in which their solution includes the ability to deny user access to data within a column based on data value within that column.

EVALUATION CRITERIA	Maximum Points Available	Bidder's Score
100% (10 points): The Bidder's solution includes the ability to deny user access to data within a column based on data value within that column by specification of security grants at column data value level.	10	
40% (4 points): The Bidder's solution includes the ability to deny user access to data within a column by another method than a security based method.		
0% (0 points): The Bidder's solution does not include the ability to deny user access to data within a column based on data value within that column.		

within a column by another method than a security based method. 0% (0 points): The Bidder's solution does not include the ability to deny user access to data within a column based on data value within that column. Bidder Response to Article 3.20.8 Location of response within proposal i.e. (Page & Reference No.)

The Bidder's proposal should describe in sufficient scripted detail the manner in which their solution components would be centrally managed by dedicated Agency Administrators.

EVALUATION CRITERIA	Maximu Points Availabi	Bidder's Score
100% (10 points): The Bidder's solution provides a central GUI interface to manag 100% of all solution components	e 10	
50% (5 points): The Bidder's solution provides a central GUI interface to manage between 50 and 99% of solution components		
<u>0% (0 points):</u> The Bidder's solution has a central GUI interface to manage less that 50% of solution components or no GUI interface at all.	an	
Bidder Response to Article 3.20.13		
Location of response within proposal		
i.e. (Page & Reference No.)		