MetricStream

METRICSTREAM

APPLICATION SERVICE PROVIDER AGREEMENT

This APPLICATION SERVICE PROVIDER AGREEMENT (the "Agreement") is entered into effective as of November

15, 2016 ("Effective Date") by and between MetricStream, Inc., a Delaware corporation with its principal place of business

at 2479 East Bayshore Rd, Suite 260, Palo Alto, CA 94303 ("MetricStream" or "Company"), and Federal Home Loan

Bank of Chicago, with its principal place of business at 200 E Randolph Drive, 18th Floor, Chicago, IL 60601 ("Bank" or

"Customer") to permit Customer to receive certain Cloud services as set forth below. When completed and executed by both

parties, one or more Order Forms shall evidence the Services to be provided.

1.0

DEFINITIONS

"Cloud Services" ineans the network access, monitoring and maintenance of the Metric Stream Software and

related services provided from a centrally located facility, as described in an Exhibit A (Order Form) attached hereto and

incorporated herein to this Agreement.

1,2 "Cloud Application" means the Metric Stream software application to be made available to Customer as part of

the Cloud Services.

1.3 "Confidential Information" means that information of either Party ("Disclosing Party*') which is disclosed to the

other Party ("Receiving Party") pursuant to this Agreement, in written form and marked as "Confidential" or "Proprietary"

or similar designation, or if disclosed orally, or by demonstration or other intangible form, is identified as confidential at the

time of disclosure as confidential and reduced to a confidential writing or summary within a reasonable time after initial

disclosure. Confidential Information shall include, but not be limited to, trade secrets, know-how, inventions, techniques,

processes, algorithms, all training and procedural materials developed by Metric Stream in conjunction with the use or

installation of the Metric Stream Cloud Application, Cloud Application, source code, schematics, designis, contracts;

customer lists, financial information, product plans, sales and marketing plans and business information. References to

either Party as a Receiving Party or a Disclosing Party shall also include all of such Party's Affiliates, subject to the

restrictions contained in this Agreement. The obligations set forth in Section 7 shall not apply to the extent that Confidential

Information includes information which is: (a) now or hereafter, through no unauthorized act or failure to act on the
Receiving Party's part, in the public domain; (b) known to the Receiving Party without an obligation of confidentiality at the
time the Receiving Party receives the same from the Disclosing Party, as evidenced by written records; (c) hereafter
furnished to the Receiving Party by a third party as a matter of right and without restriction on disclosure; (d) furnished to
others by the Disclosing Party without restriction on disclosure; or (e) independently developed by the Receiving Party
without use of the Disclosing Party's Confidential Information. Nothing in this Agreement shall prevent the Receiving Party
from disclosing Confidential Information to the extent the Receiving Party is legally compelled to do so by any
governmental investigative or judicial agency pursuant to proceedings over which such agency has jurisdiction; provided,
however, that prior to any such disclosure, the Receiving Party shall: (i) assert the confidential nature of the Confidential
Information to the agency; (ii) immediately notify the Disclosing Party in writing of the agency's order or request to
disclose; and (iii) cooperate fully with the Disclosing Party in protecting against any such disclosure and/or obtaining a
protective order narrowing the scope of the compelled disclosure and protecting its confidentiality.
1.4
"Customer Owned Materials" means the Work Product, except for MetricStream's Pre-existing Works.
1.5 "Designated System" means Customer's or Metric Stream's computer hardware and operating system designated
on the relevant Order Form.
1.6 "Intellectual Property Rights" means all of the following in any jurisdiction throughout the world and whether
existing now or in the future: (a) patents and patent disclosures; (b) copyrights and copyrightable works; (c) trademarks,
service marks, trade dress, trade name, logos, and other designations a party uses in connection with its business (whether
registered or unregistered); (d) trade secrets and know-how; (e) any other proprietary or intellectual property rights.
1,7 "MetricStream's Pre-existing Works" means any and all works including Intellectual Property Rights and
Software owned by Metric Stream prior to the commencement of the statement of work ("SOW") described under this
Agreement.

1.8 "MetrieStream Personnel" means any employee, agent, consultant, or subcontractor that MetricStream engages
or otherwise assigns to perforin Services under this Agreement or any applicable SOW or Order Fonn.
1.9 "Order Form" means MetricStream's then-current standard form for ordering Services attached to this
Agreement or added to this Agreement from time to time. Each Order Form shall be consecutively numbered and shall
reference the Metric Stream Agreement number above and the Effective Date of this Agreement. Customer's initial purchase
of Cloud Services is reflected in Order Forn No. 1, attached hereto as Exhibit A.

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1.10
"Professional Services" has the meaning set forth in Section 2.5 of this Agreement.
1.11 "Services" means any Cloud Services and/or Professional Services that MeticStream provides to Customer under
this Agreement and any applicable SOW or Order Form.
1.12
"Software" means any software specifically enumerated under an applicable Order Form or SOW or any software
that MetricStream otherwise makes available to Customer as part of the Cloud Services.
1.13 "User" means each individual who accesses the Services at a given point in time whether by a browser or other
instrumentality. For purposes of the restrictions set forth in this Agreement, access to the Services, through common user or
login names, is limited to the number of Users as specified in the Order Form.
1.14 "Work Product" means all work for hire performed by Metric Stream in a SOW for Customer excluding any of
MetricStreami's Pre-existing Works.
2.0
CLOUD SERVICES AND PROFESSIONAL SERVICES
2.1 Cloud Services. Metric Stream will provide Cloud Services in accordance with this Agreement and Exhibit B and
subject to MetricStreain's acceptable use policy attached as Exhibit C. Any revisions or updates to the acceptable use policy

must be mutually agreed to between Metric Stream and Customer through a written amendment to Exhibit C in order for such
revisions or updates to be effective between the parties.

2.2 License to Cloud Application. The Company hereby grants to Customer, a subscription based, non-transferable,
non-exclusive license (with no right to sublicense) for the tern of this Agreement (as specified in Section 3) for the
Company's Cloud Application as described in the Order Form (Exhibit A) or SOW (Exhibit E). Customer may not use the
Cloud Application to process information owned by or for the benefit of any third party unless such use is specifically in
connection with Customer's authorized use of the Cloud Application as specified in the Order Form or SOW, In
consideration of the licenses granted herein, Customer shall pay the fees in the amount and in accordance with the payment
tenns set forth in the Order Form or SOW.

2.3 Limitation of Rights. Customer acknowledges that Customer's rights in and to Cloud Application are solely as
set forth in Section 2,2 herelo and do not include any rights of ownership. Customer agrees that the Company owns all right,
title and interest, including but not limited to copyright, patent, trade secret and all other intellectual property rights, in and to
the Cloud Application, and any changes, modifications or corrections thereof, Customer hereby irrevocably assigns to the
Company any and all rights it may be deemed to have in any changes, modifications or corrections to the Cloud Application,
including but not limited to copyright rights, and agrees to execute all documents necessary to implement and effect such
assignment. Customer shall not, and shall not permit any third party to, (i) modify or use the Cloud Application except to
the extent permitted in Section 2.2 and the Order Form or SOW of this Agreement; or (ii) decompile, reverse engineer,
disassemble or otherwise determine or attempt to determine source code (or the underlying ideas, algorithms, structure or
organization) of any object code contained in the Cloud Application, Except as expressly set forth herein, Customer will not
market, sublicense, distribute, reproduce, rent, lease or offer for timesharing the Cloud Application. Except as set forth in
Section 9.2 hereto, this Agreement and the license granted pursuant hereto may not be assigned, sublicensed or otherwise
transferred by Customer without the prior written consent of the Company,

2.4 Incidental Expenses. For any onsite services requested by Customer, Customer shall reimburse Metric Stream for

actual, reasonable, pre-approved travel and out-of-pocket expenses incurred. Airfare expenses will be at coach fares, hotel
and all other expenses will be reimbursed in accordance with Customer's Travel Policy.

2.5 Professional Services. Metric Stream may provide Customer wilh professional services in support of or that
otherwise relate to the Cloud Services provided by Metric Stream, including, but not limited to, installation and integrations
services, training, and consulting services (collectively, the "Professional Services"). Professional Services to be provided
by Metric Stream to Customer shall be set forth in applicable Order Forms or SOWs that are mutually executed between the
parties.

a) Fees. Any fees associated with Professional Services to be provided by Metric Stream will be set forth in the
applicable Order Form or SOW. In the event that fees are not set forth in the foregoing documentation, then
Professional Services will be charged and invoiced at Metric Stream's then current standard hourly rates.

b) Metric Stream Personnel. Metric Stream shall assign (or cause to be assigned) sufficient numbers of qualified
MetricStream Personnel. to provide the Services in accordance with this Agreement. If Customer determines in
good faith that the continued assignment to the Services of any individual Metric Stream Personnel is not in the
best interests of Customer, then Customer shall give Metric Stream notice to that effect requesting that such
MetricStrçam personnel be replaced. Metric Stream shall, as soon as possible, permanently remove and replace
such Metric Stream Personnel with an individual of suitable ability and qualifications. In such event, Customer
shall not be obligated to pay any expenses or other fees relating to the replacement of such MetricStream

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Personnel, including any training or other knowledge transfer activities or overlaps in periods of employment.
Nothing in this provision shall operate or be construed to limit Metric Stream's responsibility for the acts or
omissions of Metric Stream Personnel, or be construed as joint employment.

c) Subcontractors. MetricStream shall not use any subcontractors to provide any Services under a SOW or Order
Form without the prior written approval of Customer. MetricStream shall at all times be and remain directly and
primarily liable to Custoiner for the performance of all of the obligations of MetricStream hereunder, including
those assigned to or assumed by any subcontractors, and for subcontractors' compliance with this Agreement
(whether or not Customer consented to the use of a subcontractor). MetricStream shall ensure that each
subcontractor complies, and that each subcontract includes provisions that require compliance by the applicable
subcontractor with, the obligations of Metric Stream under this Agreement. Metric Stream shall not disclose to any
subcontractor any confidential information of Customer unless and until such subcontractor has executed a
nondisclosure agreement that is no less protective of Customer's rights than are the confidentiality provisions set
forth in this Agreement.
2.6
Disaster Recovery Testing. At least annually, Metric Stream shall cause to be conducted a test of its Recovery
time objective/Recovery Point Objective ("RTO/RPO") obligations, and share the results of the test with the Customer. If
the test reveals any issues or problems with the recovery plan, then, no later than three (3) months after the date of
completion of the test, Metric Stream shall remedy such issues or problems and cause an incremental test to be conducted to
verify that such issues or problems have been corrected.
2.7 Change in Scope of Services. Any addition or other change to the Services contained in an Order Form or SOW
must be mutually agreed to in writing between the parties. Metric Stream shall have no obligation to provide and Customer
shall have no obligation to pay any fees for any services or other deliverables that are not explicitly set forth in any Order
Form or SOW or in mutually executed ainendment thereto.
3.0
TERM AND TERMINATION
3.1 Term. The terin of this Agreement shall be three (3) years, unless terminated as provided herein. The term of this
Agreement will renew automnatically on its same terms for successive one-year terms unless either party terminates the
Agreement after the initial term and upon sixty (60) days' prior written notice of renewal.

3.2 Termination for Cause, Either party may terminate this Agreement immediately: (a) in the event of the
insolvency, bankruptcy or voluntary dissolution of the other party; or (b) if either party materially defaults in the
performance of any material provision hereunder, and if such default continues and is not cured by the breaching party
within thirty (30) days after written notice thereof. Such termination right is in addition to, and not in limitation of, any other
right or remedies available to either party. If the Agreement is terminated by Customer for material breach by Metric Stream,
then MetricStream shall provide Customer with a refund of the License fees paid to Metric Stream, calculated as follows: (a)
if the breach occurs during the first year of the Agreement, the amount refunded will be equal to this Order Forin or all future
License fees paid under future Order Forms; (b) if the breach occurs during the 2nd or 3rd years of the Agreemnent, the amount
refunded will be equal to 1/36 of all future License fees paid, multiplied by the number of months remaining in the initial 3.
year period; and (c) if the breach occurs after the initial 3-year period, Metric Stream shall provide no refund of any future
License fees.
3.3 Effects of Termination. Upon expiration or termination of this Agreement, (a) Customer shall: (i) cease using the
Services; and (ii) certify to MetricStream within one month after expiration or termination that Customer has destroyed or
has returned to Metric Stream all related documentation and copies thereof; and (b) Metric Stream shall return to Customer all
data furnished by Customer in connection with this Agreement, however any Metric Stream Services required to migrate
Customer's data to other systems will be charged at MetricStream's then current services rates. Termination of this
Agreement shall not relieve Customer's obligation to pay all undisputed fees that have accrued or are otherwise owed by
Customer under this Agreement for Services performed by Metric Stream prior to termination. All such payments shall be
made by Customer within thirty (30) days of any termination of this Agreement. In the event of termination, within 5
business days, Metric Stream shall provide a backup copy of Customer's database and application files in a VMWare
instance of the production database on an encrypted hard drive provided by Customer. Metric Stream will work with
Customer to ensure a smooth transition or wind-down of Services to Customer or a third party at the applicable hourly rates.

During the transition or wind-down period, Metric Stream shall provide the related Services and provide the deliverables, in
accordance with the applicable SOW and transition plan,
INDEMNITY
4.1 By Metric Stream. Metric Stream will defend, indemnify and hold Custoiner harmless against any costs (including
reasonable legal costs), expenses or damages suffered or incurred by Customer arising out of any claim by a third party that
the normal operation or use of the Software by Customer infringes the intellectual property rights of such third party,
provided (a) Customer notifies Metric Stream promptly in writing of any such claim; (b) Customer does not enter into any
settlement or compromise of any claim without the MetricStream's prior written consent; and (c) MetricStream has sole

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control of any such action or settlement negotiations and Customer provides Metric Stream with information and assistance,
at Metric Stream's expense, necessary to settle or defend such claim. Metric Stream assumes no liability bereunder for, and shall have no obligation to defend Customer or to pay costs, damages
or attorney's fees for any claim based upon: (a) the combination, operation or use of any Services furnished under this
Agreement with software, hardware or other materials or services not provided by Metric Stream if such infringement would
have been avoided in the absence of such combination, operation, or use; or (b) use of altered Services or services not
authorized by Metric Stream, i.e., alterations to the Services by a party other than Metric Stream or not authorized by
Metric Stream, if the infringement would have been avoided by the use of unaltered Services that Metric Stream provides to
Customer; or (c) use or incorporation in the Services of any design, technique or specification furnished by Customer, if the
infringement would not have occurred but for such incorporation or use; or (d) alteration of the Services by a party other
than Metric Stream; or (e) Customer's use of the Services other than as permitted under this Agreement,
In the event any portion of the Software or Services, including any deliverable under an Order Forin or SOW, is held or is

likely to be held to constitute an infringement or misappropriation of intellectual property rights, or the continued provision
or use of any Software or Service is enjoined or likely to be enjoined, then Metric Stream, at its own expense, shall (a)
procure for Customer the right to continue to use such Software or Services, or (b) modify or replace such Software or
Service so that it is non-infringing and of at least equivalent performance and functionality to that prior to such modification
or replacement. If none of the foregoing is possible and if such Software or Services are found to infringe by a court of
competent jurisdiction, Customer will have the right, in its sole discretion, to terminate this Agreement or the relevant Order
Form or SOW with respect to such Software or Services, in which case MeiricStream will refund to Customer all amounts
paid by Customer for access and use of such Software or Services. Any termination of this Agreement or any Order Form or
SOW by Customer under this Section will be without prejudice to any other rights and remedies that Customer inay have
under this Agreement or at law or in equity.

4.2 By Customer. Customer will indemnify, defend and hold harmless Metric Stream, its Affiliates and their
respective officers, directors, employees, agents and representatives (collectively, "Metric Stream Indemnitees"), from any
and all losses and/or action brought against Metric Stream arising from, in connection with, or based on allegation of any of
the following: (a) alleging Customer's use of the Services in an unlawful manner or in a manner that is in violation of the
terms of use provided for in this Agreement, including Exhibit C; or (b) arising from or involving content, data or
information provided by Customer; provided that: (i) Metric Stream notifies Customer promptly in writing of any such claim;
(ii) MetricStream does not enter into any settlement or compromise of any claim without Customer's prior written consent;
and (iii) Customer has sole control of any such action or settlement negotiations. Metric Stream shall provide Customer with
reasonable information and assistance, at Customer's expense, necessary to settle or defend such claim.

4.3 By MetricStream. MetricStream will defend, at its expense, any action brought against Customer: (a) alleging
MetricStream's provision of the Services in an unlawful manner or in a manner inconsistent with the terms of this
Agreeinerit, including Exhibit C; (b) Metric Stream's breach or any representation, warranty, and covenant set forth herein;

(c) Metric Stream's breach of its obligations with respect to Confidential Data; (d) any injury or damage to any persons or
property by reason of any act or omission by Metric Stream or Metric Stream Personnel in, upon or about the premises
owned, operated or under the control of Customer; and (e) any negligent act or omission or intentional wrongdoing of
Metric Stream; provided that: (i) Customer notifies MetricStream promptly in writing of any such claim; (ii) Customer does
not enter into any settlement or compromise of any claim without MetricStream's prior written consent; and (iii)
MetricStream has sole control of any such action or settlement negotiations. Customer shall provide MetricStream with
reasonable information and assistance, at MetricStream's expense, necessary to settle or defend such claim,

5.0

LIMITED WARRANTY

5.1 Services. Metric Stream warrants that the Cloud Services and Professional Services (a) will be performed in a good
and workmanlike manner and in all material respects in accordance with Exhibit B and in accordance with applicable
industry standards and practices by qualified individuals who have suitable training and experience to perform the Service;
and (b) will meet and adhere to the requirements of the Service Level Agreement (the "SLA") contained in Exhibit B.

5.2 Other Warranties. In addition to the warranties provide in Section 5.1, Metric Stream hereby warrants and
represents that:

a) Non-Infringement (1) MetricStream has and will have all rights, titles, licenses and intellectual property,
permissions and approvals necessary in connection with its perforinance under this Agreement and to grant
Customer the licenses and rights contained herein; and (b) none of the Services or the provision or utilization
thereof as contemplated under this Agreement, do or will infringe, violate, trespass or in any manner contravene or
breach or constitute the unauthorized use or misappropriation of any intellectual property of any third party,

5) Viruses and Other Disabling or Hostile Code. Any software or firmware used or provided in the course of
the Services do not and will not contain, and Metric Stream will not insert, any computer code (i) designed to
disrupi, disable, harm, or otherwise impede the operation of the Services or such software or firmware or any

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computer or network; (ii) that would permit Metric Stream or any third party to access the software or firmware or
any computer or network; or (iji) that would permit Metric Stream or any third party to track, monitor or otherwise
report the operation and use of the software or firmware or any computer or network system by Customer or any of
its customers or clients,
c) Due Authority. (i) Metric Stream is duly incorporated or registered, validly existing and in good standing under
the laws of its state of incorporation; (ii) it has the requisite corporate power and authority to execute this
Agreement and perform its obligations under this Agreement; (iii) execution and performance of this Agreement
has been duly authorized by the requisite corporate or other governing action on the part of MetricStream; and (iv)
execution and performance of this Agreement will not violate or contravene the terms of any agreement or
obligation between vendor and third parties, including any judgment or order.
d) Background Screening. Metric Stream represents and warrants that it conducts appropriate background
screening on all personnel providing Services to Customer under this Agreement, such screening dating back at
least seven years and including a one-county criminal record check, Social Security check, credit check,
confirmation of education, and basic employment verification (dates of employ_nent, salary, title, reason for
leaving and refire eligibility).
e) Compliance with Law. All Services performed will comply, including the utilization thereof as contemplated
hereunder, with all applicable laws, rutes, regulations, orders of any governmental (including any regulatory or
quasi-regulatory) agency, including financial, disclosure, import, export and encryption laws, as well as all
applicable securities laws and compliance regulations.
f) Compliance with Customer's Data Protection Protocols. Metric Stream represents and warrants that all
Services and the provision thereof will comply with Customer's Data Protection Protocols for the safeguarding of

Customer Confidential Information. Metric Stream shall comply with the information systems security
requirements contained in the Data Protection Protocols attached hereto and incorporated herein by reference as
Schedule E.

5.3 Disclaimers. EXCEPT AS SET FORTH IN SECTIONS 5.1 AND 5.2, NO OTHER WARRANTY, EXPRESS OR
IMPLIED, IS MADE WITH RESPECT TO ANY SERVICES, TO BE SUPPLIED HEREUNDER, AND METRICSTREAM EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY, TITLE,
FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF THIRD PARTY RIGHTS AND THOSE
ARISING FROM A COURSE OF DEALING OR USAGE OF TRADE.

6.0
PAYMENT AND TAXES

6.1 Fees. Metric Stream will invoice Customer the fees set forth in each Order Form and any applicable sow.
Metric Stream will send invoices to AP@fhibc.com or as otherwise instructed by the Customer. Customer will pay
Metric Stream in U.S. dollars within 30 days (Net 30 terms) of receipt of a correct invoice all undisputed charges and
promptly notify Metric Stream in writing of any disputed amount. Metric Stream shall supply Customer with documentation
to support the validity of any disputed charge.

6.2 Disputed Charges. Customer may withhold payment of fees that Customer reasonably disputes in good faith.
Neither the failure to dispule and fees prior to payment nor the failure to withhold any amount shall constitute, operate or be
construed as a waiver of any right that Customer may otherwise have to dispute any fee or recover any amount previous
paid.

6.3 Taxes. Customer is exempt from the payment of sales, use, excise, value-added, ad valorem, personal property,
business, goods and services, consumption and other similar taxes or duties, and shall bear the responsibility of any claims or
such taxes that may arise under this Agreement. Metric Stream agrees that it shall bear the responsibility (and will not invoice
Customer) for its own taxes in connection with the provision of Services, under this Agreement. Upon request, Customer
shall provide Contractor with a valid tax exemption certificates (including for state sales tax) for any such taxes in a form
authorized by the appropriate tax authority.

6.4 Audit Rights. Metric Stream shall maintain complete and accurate records of and supporting documentation for

all Customer materials and systems accessed as well as for amounts charged under this Agreement, and shall supply to
Customer, or upon request, Customer's outside auditors, and/or Customer's regulator, at prior written notice of at least 10
business days, access at reasonable working hours to MetricStream records and other pertinent information, to the extent
relevant and reasonable to the Services and MetricStream's obligations under this Agreement. If any such audit reveals ani
overcharge by Metric Stream, Metric Stream shall promptly pay to Customer the amount of such overcharge. In addition, if
any such audit reveals an overcharge of more than ten percent (10%) of the audited amounts, MetricStream shall promptly
reimburse Customer for the actual cost of such audit.

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6.5 Payment of Refunds or Credits due to Customer. In the event that the Customer is owed a refund or credit
pursuant to the terins of this Agreement or any attached exhibit, including, but not limited to credits that may be owed under
the applicable SLA, then, at the Customer's discretion, the Customer may either elect to have the refund or credit included in
the next invoice to be provided by Metric Stream or to have the refund or credit paid to Customer in the form of a check. If
the Customer elects to receive the refund or credit in the form of a check, then Customer shall provide MetricStream with a
written request for such and MetricStream shall send Customer a check in the amount of the refund or credit due no later
than ten (10) business days from the date that Customer provided its written request.

7.0

CONFIDENTIAL INFORMATION.

Each Party acknowledges that in the course of the performance of this Agreement, il may obtain the Confidential
Information of the other Party. The Receiving Party shall, at all times, both during the term of this Agreement and thereafter
in perpetuity following termination of this Agreement, keep in confidence and trust all of the Disclosing Party's Confidential
Information received by it (except for any source code, which shall be kept in confidence and trust in perpetuity). The

Receiving Party shall not use the Confidential Information of the Disclosing Party other than as expressly permitted under
the terms of this Agreement. The Receiving Party shall take all necessary steps to comply with applicable laws and
regulations to prevent unauthorized disclosure or use of the Disclosing Party's Confidential Information and to prevent it
from falling into the public domain or into the possession of unauthorized persons. The Receiving Party shall not disclose
Confidential Information of the Disclosing Party to any person or entity other than its officers, employees, contractors, and
consultants who need access to such Confidential Information in order to effect the intent of this Agreement and who have
entered into confidentiality agreements which protect the Confidential Information of the Disclosing Party sufficient to
enable the Receiving Party to comply with this Section 7. The Receiving Party shall immediately give notice to the
Disclosing Party of any unauthorized use or disclosure of Disclosing Party's Confidential Information. The Receiving Party
shall cooperate with the Disclosing Party in any investigation deemed necessary to protect Disclosing Party's rights. The
Receiving Party agrees to assist the Disclosing Party to remedy such unauthorized use or disclosure of its Confidential
Information. Further, the Receiving Party shall use all commercially reasonably efforts to prevent further possession, access,
use, knowledge, disclosure, or loss of Confidential Information in contravention of this Agreement. The Receiving Party
shall pay to Disclosing Party all expenses related to unauthorized possession, access, use, knowledge, disclosure or loss of
Disclosing Party's Confidential Information.
Each party agrees that the Confidential Information obligations hereunder are necessary and reasonable in order to protect
the other party and the other party's business, and expressly agrees that monetary damages would be inadequate to
compensate the other party for any breach by either party of any covenants and agreements set forth herein. Accordingly,
each party agrees and acknowledges that any such violation or threatened violation will cause irreparable injury to the other
party and that, in addition 10 any other remedies that may be available, in law, in equity or otherwise, the other party shall be
entitled to obtain injunctive relief against the threatened breach of this Agreement or the continuation of any such breach,
without the necessity of proving actual damages.
Metric Stream may perform all Services on behalf of Customer at any Customer or Metric Stream location, including any

authorized Metric Stream locations outside of the United States, currently Metric Stream's India location. Access to Customer

information systems, if required, shall be via multifactor secured remote access provided by Customer. Access from outside

the United States to Customer may only be via Metric Stream's U.S. based system using SFTP. For the avoidance of doubt

Customer data may not be stored outside of the United States. MetricStream will maintain appropriate administrative,

technical and physical safeguards to protect all Customer Confidential Information, both within and outside the United States

and in accordance with the requirements of this Section 7 of this Agreement, in order to (i) ensure the security and

confidentiality of Customer Confidential Information; (ii) protect against threats or hazards to the security or integrity of

such Customer Confidential Information; and (iii) protect against unauthorized access to or use of such Customer

Confidential Information,

Notwithstanding the foregoing, Pll data may not be sent to India or to any other location outside of the United States,

Neither party shall transmit any Personally identifiable Information (PII) outside of the Application..

8.0

LIMITATION OF LIABILITY AND INSURANCE

8.1 Limitation of Liability. EXCEPT AS SET FORTH IN THIS SECTION 8.1, IN NO EVENT SHALL EITHER

PARTY BE LIABLE FOR COSTS OF PROCUREMENT OF SUBSTITUTE GOODS, LOSS OF PROFITS, OR FOR ANY

INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES, HOWEVER CAUSED, WHETHER FOR

BREACH OF WARRANTY, BREACH OF CONTRACT, REPUDIATION OF CONTRACT, NEGLIGENCE OR

OTHERWISE. EACH PARTY'S LIABILITY UNDER THIS AGREEMENT OR FOR BREACH OF THIS AGREEMENT

SHALL BE LIMITED TO THE AMOUNT OF THE FEES PAID BY CUSTOMER TO METRICSTREAM HEREUNDER

DURING THE PREVIOUS EIGHTEEN (18) MONTH PERIOD PRECEDING THE LAST ACT OR OMISSION GIVING

RISE TO SUCH LIABILITY, F ANY. THE FOREGOING LIMITATION SHALL NOT APPLY TO EITHER PARTY'S

GROSS NEGLIGENCE, WILLFUL MISCONDUCT CAUSING BODILY INJURY OR DEATH, OR ANY THIRD

PARTY CLAIMS FOR WHICH A PARTY PROVIDES AN INTELLECTUAL PROPERTY INDEMNITY UNDER THIS

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AGREEMENT. IN ADDITION, THE FOREGOING LIMITATION SHALL NOT APPLY TO CLAIMS ARISING OUT
OF BREACH OF THE CONFIDENTIALITY OBLIGATIONS.

8.2

Insurance. Metric Stream shall maintain in full force and effect, during the term of this Agreement, and for such
longer periods as is necessary to cover its indemnity obligations under this Agreement, at its own cost and expense, the
insurance as specified in this section, and shall upon request of Customer deliver certificates of insurance naming Customer
as an additional insured. Metric Stream shall provide Customer written notice of at least thirty (30) days prior to any
termination, expiration or change in the coverage(s) required under this Agreement.

a) Commercial General Liability: Limits: $1,000,000 minimum limits per occurrence/$2,000,000 Annual
Aggregate limit.

b) Worker's Compensation and Employers Liability: Statutory Worker's Compensation coverage. Employers
Liability; $1,000,000 bodily injury each accident/ $1,000,000 per employee by discase/ $1,000,000 policy limit by
disease.

c) Professional Liability/Errors & Omissions: $1,000,000 minimum limits.

d) Umbrella Liability: Limits: $1,000,000 minimum limits per occurrence and general aggregate.

9.0

GENERAL TERMS

9.1 Modification of the Agreement. The terms of this Agreement and the Order Form may only be modified by a
written agreement duly signed by both parties hereto. Variance from the terms and conditions of this Agreement in any
Customer purchase order or other written notification will be of no effect.

9.2

Assignment. This Agreement inay not be assigned by either party without the prior written consent of the other
party, which consent shall not be umeasonably withheld or delayed. This Agreement will be binding upon the parties and
their respective legal successors and permitted assigns.

9.3

Survival. The provisions of Sections 7, 8 and 9 shall survive any termination of this Agreement, or such other
terms that by their nature should survive the termination of this Agreement.
9.4 Governing Law. This Agreement and all acts and transactions pursuant hereto and the rights and obligations of
the parties hereto shall be governed, construed and interpreted in accordance with the laws of the State of Illinois and the
United States of America, without giving effect to any choice-of-law provision or rule that would cause the application of
laws of any other jurisdiction. Any legal action or proceeding arising out of, or connected or relating to this Agreement or
any right or obligation created by this Agreement, irrespective of the legal theory or claims underlying any such dispute
(including tort and statutory claims), shall be resolved exclusively in any state or federal court located in Cook County,
Illinois; Metric Stream and Customer agree to submit to the jurisdiction of, and agree that venue is proper in, these courts in
any such legal action or proceeding.
9.5 Intellectual Property Rights. MetricStream shall retain all rights, title, and interest in and to Metric Stream's Pre-
existing Works. Customer Owned Materials shall be the sole and exclusive property of Customer. Customer shall have all
rights, title, and interest in and to those materials. To the extent that the Work Product incorporates MetriceStream's Pre-
existing Works, Metric Stream grants Customer for intemal use only a royalty-free right and license to use, perform, copy,
display, and distribute such Work Product, to prepare derivative works therefrom, and to use, perform, copy, display, and
distribute such derivative works.
9.6 Notices. Any notice or report required or permitted by this Agreement, except as otherwise set forth in this
Agreement, shall be in writing and shall be deemed sufficient upon receipt, when delivered personally or by courier,
overnight delivery service or confirmed facsimile, or forty-eight (48) hours after being deposited in the regular mail as
certified or registered mail (airmail if sent internationally) with postage prepaid, if such notice is addressed to the party to be
notified at such party's address or facsimile number as set forth below or as subsequently modified by written notice.
9.7 Severability; Waiver. If one or more provisions of this Agreement are held to be unenforceable under applicable
law, the parties agree to renegotiate such provision in good faith, in order to maintain the economic position enjoyed by each

party as close as possible to that under the provision rendered unenforceable. In the event that the parties cannot reach a
mutually agreeable and enforceable replacement for such provision, then: (a) such provision shall be excluded from this
Agreement; (b) the balance of the Agreement shall be interpreted as if such provision were so excluded; and (c) the balance
of the Agreement shall be enforceable in accordance with its terms. No failure of either party to exercise or enforce any of
its rights under this Agreement will act as a waiver of such rights or of any other rights hereunder.

9.8 Relationship of the Parties. Nothing in this Agreement is 10 be construed as creating an agency, partnership, or
joint venture relationship between the parties hereto.

9.9 Costs. If any action at law or in equity (including arbitration) is necessary to enforce or interpret the terins of this
Agreement, the prevailing party shall be entitled to reasonable attorney's fees, costs and necessary disbursements in addition
to any other relief to which such party may be entitled.

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1.02 April 2016

MetricStream

9.10 Non-solicitation. Each party acknowledges and agrees that the employees and consultants of the other party are a
valuable asset to the other party and are difficult to replace. Accordingly, each party agrees that, for the term of this
Agreement and for a period of twelve months thereafter, it will not offer employment as an employee, independent
contractor, or consultant to any of the other party's employees or consultants. In the event that a party breaches the
provisions of this Section, the parties agree that it would be difficult to determine the amount of actual damages to the other
party that would result from such breach. The parties further agree that in the event that a party breaches the provisions of
this Section, the party shall pay the other party liquidated damages of $25,000 for each such breach, which is the parties'
good faith estimate of the amount of damages to the other party from such breach. This provision shall not operate or be
construed to prevent or limit any employee's right to practice his or her profession or to utilize his or her skills for another
employer or to restrict any employee's freedom of movement or association,

9.11 Force Majeure. Except for Customer's obligation to pay for services already performed by the Company, if either
party is prevented from complying, either totally or in part, with any of the terms or provisions of this Agreement by reasons
of fire, flood, storm, earthquake, strike, lockout or other labor troublc, riot, war, rebellion, communications or utility failures,
accident or other acts of God, then upon written notice to the other party, the requirements of this Agreement, or the affected
provisions hereof to the extent affected, shall be suspended during the period of such disability,

9.12 Entire Agreement. This Agreement, including all Exhibits hereto, is the product of both of the parties herelo, and
constitutes the entire agreement between such parties pertaining to the subject matter hereof and merges all prior
negotiations and drafts of the parties with regard to the transactions contemplated herein. In the event of a conflict between
the terms of this Agreement and an Order Form, the Order Form shall govern. Any and all other written or oral agreements
cxisting between the parties herelo regarding such transactions are expressly canceled.

9.13 Undisclosed Interests. Either Party covenants, represents and warrants that it has no financial, business property
or personal interest(s) with the other Party which would adversely affect their ability to exercise its professional judgment on
behalf of, and in the best interest of, either Party, in the furtherance of either Party's obligations hereunder. Either Party
further represents and warrants that it has not paid a fee nor given any compensation to an employee of the other Party or any
third party, in order to secure the award of this Agreement.

9.14
Laws and Fraud Reporting.
a) Foreign Corrupt Practices Act, MetricStream shall comply with all laws and regulations of Federal, State, or
local governments in connection with this work, Metric Stream shall give all notices and obtain all permits and
licenses required under such laws. The anti-bribery provisions of the Foreign Corrupt Practices Act of 11077
("FCPA"), 15 U.S.C. $$ 78dd-1", et seq., makes it unlawful for U.S. companies, as well as their officers, directors,
employees, and agents, to corruptly offer or make a corrupt payment of money or anything of value to a foreign
official for the purpose of obtaining or retaining business. Metric Stream acknowledges and understands that it

must comply fully with the anti-bribery provisions of the FCPA. Specifically, Metric Stream understands and
agrees that it shall be unlawful for Metric Stream to pay, offer, promise to pay (or authorize to pay or offer) money
or anything of value to a foreign official in order to assist Customer in obtaining or retaining business for or with,
or directing business to, Customer. A "foreign official" means any officer or employec of a foreign government, a
public international organization, or any department or agency thereof, or any person acting in an official capacity.
Metric Stream understands all applicable laws relating to kickbacks. MetricStreann agrees to periodically verify its
compliance with such laws and to infonn Customer immediately of any violations thereof. Metric Stream shall take
affirmative action in compliance with all Federal and State requirements concerning fair employment and
employment of the handicapped, and concerning the treatment of all employees without regard to discrimination
by reason of race, color, religion, sex, national origin, or physical handicap.
b) Equal Opportunity in Employment. MetricStream shall practice the principles of equal employment
opportunity and non-discrimination in all of its business activities and shall include the equal employment and
non-discriinination provisions described in this provision in each subcontract it enters for services or goods to be
provided to Customer.
c) Fraud Reporting. Pursuant to the Customer's Fraud Reporting Policy, Metric Stream agrees that it will report
to Metric Stream any instances of Fraud or Possible Fraud, as defined in the Fraud Reporting Policy, involving the
Customer. Such reports shall be filed online at http://www.ethicspoint.com.
9.15 Customer Requirements. Metric Stream will ensure that its employees, agents, or designces, when in or upon
Customer's premises, shall obey all ethics and business conduct, workplace health, safety and security rules and regulations
established by Customer, regarding the conduct of its own employees and any additional rules and regulations established by
Customer for non-employees, including without limitation, security rules, and regulations. Metric Stream shall certify that it
has a practice and a process to verify the legal status of all employees and by certifying assures Customer that all employees
assigned to support Customer with access to our facilities are legally able to work in accordance with the laws applicable to

such location. Metric Stream will obtain and track citizenship and immigration status of employees performing work for
Customer. MetricStream shall maintain records of employees' citizenship or immigration status described above for all
employees or the employees of Metric Stream's subcontractors assigned to perform work for Customer at any Customer
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MetricStream
location. The records shall be kept current at all times and shall be available and accessible for review and audit upon
request.
9,16 Marketing Rights. No public disclosures by either party relating to this Agreement, except for internal
announcements or disclosures required to meet legal or regulatory requirements beyond the reasonable control of the
disclosing party, shall be made without the prior written approval of authorized representatives of the other party. Neither
party shall use the other party's name, trademarks, service marks, logos, any description that would reveal such other party's
identity or other forms of identification, whether registered or not, in any way, including any advertisements, press releases,
announcements, customer lists (including customer lists on any website), materials of a public or promotional nature or in
soliciting other clients or making any direct or indirect public reference to this Agreement or any other contract between the
parties, without first obtaining the other Party's written permission, which may be withheld in such other party's sole
discretion. Each party agrees that it shall not negatively reference or disparage the other party.
Metric Stream may seek Customer's participation in additional marketing activities and engagements from time to time.
Participation in these activities and engagements will be based on Customer's consent, approvals and as per internal policies
of the Customer. Examples of such activities and engagements include reference calls from prospects, media interviews,
video testimonials, case studies, webinars, analyst surveys and presentations at industry conferences.
BOTH PARTIES ACKNOWLEDGE THAT THEY HAVE READ THIS AGREEMENT, UNDERSTAND IT AND
AGREE TO BE BOUND BY ITS TERMS AND CONDITIONS.

Authorized representatives of each party below have executed this Agreement as of the Effective Date:

FEDERAL HOME LOAN BANK OF CHICAGO

METRICSTREAM, INC.

Signature:

Signature

Printed Name:

From HW Hmon.

Printed Name:

Title:

EVP GA

Title:

DAVID A. KEEFE

UP FINANCE

December 29, 2016

Dean bur 29 2016.

Date:

Date:

1.02 April 2016

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Exhibit A

Order Form No. 1

Cloud Services;

Premium Cloud Hosting and On-Shore Support and Maintenance

Type of License:

Renewal of Internal Audit, Enterprise Risk Management and Compliance Management Perpetual License

Number of Authorized Users:

Maintenance and Support Fee:

30 Regular, 50 Medium, 500 Light Users

$40,600 per Year for GRC Licenses

$62,500 per year for On-Shore Support

Cloud Services Fees:

$60,000 per Year for production, test and development environments ("Premium Cloud Hosting").

Invoice Schedule:

The balance of the first six months fees are due upon signing or commencement of services whichever is the later. Future fees will be invoiced in June and November,

Payment Terms:

Net 30
Start Date:
November 1st, 2016
Invoice Address:
Federal Home Loan Bank of Chicago
200 E. Randolph Drive
Chicago, IL 60601
Attn: Tom Harper
Email: tharper@fhlbc.com
Phone: 312-565-5700
Premium OnDemand Cloud Services Description
The Premium OnDemand Cloud Services includes and Customer shall receive:
Unlimited number of Metric Stream Applications
Supports up to 600 active/concurrent users
Support up to 20,000 named users
Production Environment - Dedicated physical Server
Pre-Production Environment - Dedicated Virtual Server
Disaster Recovery Environment - Dedicated physical server in a separate Data center
Encryption-in-transit
Network Intrusion Detection System (NIDS)
Oracle's Standard Edition license included (Optional Encryption-At-Rest available at additional
cost),
Ongoing maintenance of the MetricStream Software that Licensee has licensed as described in Exhibit
A (Order Form).
System administration and support services as set forth in the Service Level Agreement
in Exhibit B
Application and database performance tuning services
Backup and Recovery Services
Perform periodic backups of data off site. All Licensee data will be encrypted
for these backups.
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MetricStream
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If a MetricStream system fails, the hardware will be replaced as necessary, the

operating system, databases and applications reloaded, and the database restored to recover the system. The recovery of Time Objectives (RTO) is less than twelve (12) hours and the recovery of Point Objectives to the time of crash is less than 4 hours. Backup application servers are not used, nor are redundant locations.

If data from the system is accidentally deleted by Licensee, restoration of this

data may be charged at Metric Stream's then current hourly rates.

Network Connectivity

A 100GB/month bandwidth will be provided to Licensee. This is normally sufficient for access.

Access to the Internet from the Licensee's site and/or computers will be the responsibility of the Licensee.

24/7 Network Operations Center (NOC) and Service Operations Control (SOC)

Host Intrusion Prevention System (HIPS)

Third party Identity Access Management (IAM) integration (LDAP/AD/SSO)

Encryption-in-transit

Encrypted Backup (Disk onsite and offsite) 30 days

IP Filtering

Compliance - SOC2, and HIPAA

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Exhibit B

Responsibilities & Service Level Agreement

This Exhibit B is an additional part of and is incorporated into the Agreement, does not change or supersede any term of the

Agreement (unless otherwise specifically provided herein), and applies only to the Services which have been ordered and

paid for by Customer as described in an Order Forin(s) to the Agreement. All capitalized terms not otherwise defined herein

will have the meanings provided in the Agreement and/or Order Fonns attached thereto.

1.

Definitions:

For purposes of this Exhibit B, the following terms are defined as below:

1.1. "MetricStream System" shall mean MetricStreain's computer hardware and operating systems including servers

and other equipment used and maintained to provide Cloud Services.

1.2. "Cloud Application" means the MetricStream Software made available to Customer as part of the Cloud

Services.

1.3. "Error(s)" shall mean any failure of the Cloud Application to materially conform to such Cloud Application's functional specifications set forth in specifications provided by Metric Stream ("Specifications"). Notwithstanding anything contained in the Agreement to the contrary, the term "Error" shall not include any failure of the Cloud Application to materially conform to such functional specifications set forth in the specifications that: (i) results from Customer's use of the Cloud Application or Cloud Services in a manner that violates any restrictions or obligations on Customer's use that are contained in the Agreement or this Exhibit B; (ii) does not materially affect the operation and use of the Cloud Application or Cloud Services; or (iii) results from the modification by Customer of the Cloud Application or Cloud Services in a fashion not contemplated by the Agreement.

14. "Error Correction" shall mean either a modification or addition to or deletion from the Cloud Application that, when made to such software shall materially conform such software to the Specifications, or a procedure or routine that is not materially inconvenient to Customer and that, when observed in the regular operation of the Cloud Application, eliminates the material adverse effect on Customer of such Error.

1.5. "Critical Error" means any demonstrable Error in the Cloud Application that: (1) causes or is likely to cause data to be lost or destroyed; or (ii) prevents the Cloud Application from being executed on the properly configured environment.

1.6. "Severe Error* means any demonstrable Error in the Cloud Application that: (i) causes the Cloud Application to have a significant loss of utility of intended function as set forth in the Specifications.

1.7. "Moderate Error" means any demonstrable Error in Cloud Application that: (i) causes the application(s) to operate improperly; or (ii) produces results materially different from those described in the standard Metric Stream documentation, but which error does not rise to the level of a Severe Error,

18. "Minor Error" means any demonstrable Error that: (i) causes a function to not execute as documented in the

Specifications without a significant loss of utility of intended functionality; or (ii) disables one or more
nonessential functions.
1.9. "Support Services" means the on-going software maintenance and support to be performed by Metric Stream on
the Cloud Application as part of the Cloud Services and pursuant the Agreement.
1.10. "Workaround" means a temporary solution to an Error that Metric Stream has implemented, or enabled
Customer to implement, and that allows the Cloud Application to regain functionality and provide major software
functions in accordance with the Specifications.
2. Services
2.1 Cloud Services. Metric Stream will make the Cloud Applications available to Customer via secure Internet
connection, and will ineet the service level requirements described in section 5 (Service Levels) and 6 (Security) of
this Appendix B below. In addition, Metric Stream will maintain seven (7) years' worth of data online and
accessible to Customer through the Cloud Services, unless otherwise instructed by Customer in writing to delete
such data from the Cloud Services and from MexicStream's systems.

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2.2 Scheduled Maintenance. MetricStream and its suppliers reserve regularly scheduled maintenance windows in
order to maintain and upgrade the MetricStream System. The current regularly scheduled maintenance windows
shall be subject to modification from time to time provided that thirty (30) day prior written notice is given to
Customer. MetricStream shall make reasonable efforts to provide Customer with prior notification of all
emergency maintenance procedures.
2.3 Stress Testing. The Parties may agree from time to time to conduct stress testing and/or load testing. To the
extent that Customer agrees to proceed with such testing, any resulting interruption or impairment is not included
in or covered by the SLA, provided that such interruption or impairment does not last beyond an amount of time
that would be reasonably expected based on industry practices and standards.

2.4 Support Services. Metric Stream will provide phone- and email-based Support Services to Customer to address
technical problems related to the Cloud Application and the Metric Stream System used to deliver the Cloud
Services to Customer.

3.

Customer Responsibilities

3.1 Equipment: Customer agrees that it shall be responsible for providing and maintaining its own Internet access
and all necessary telecommunications equipment, software and other materials ("Customer Equipment") at
Customer's location necessary for accessing the Cloud Services and the MetricStream System through the internet.
Customer agrees not to knowingly transmit, re-transmit or store materials on or through the Metric Stream System
or other software that are harmful to the MetricStreain System, or in violation of any applicable laws or
regulations, including without limitation laws relating to infringement of intellectual property and proprietary
rights of others, and shall comply with and ensure that its users comply with the terms of the Acceptable Use as set
forth in Exhibit C of the Agreement.

3.2 Notice of Errors. Customer agrees to notify Metric Stream via phone call or email to Metric Stream's Support Line
promptly following the discovery of any Error. Upon discovery of an Error' by Customer, Customer agrees if
requested by Metric Stream, to submit promptly to MetricStream a listing of output and any other data, including
the operating conditions under which the Emor occurred or was discovered that Metric Stream may reasonably
require to reproduce the Error.

4.

Metric Stream Obligations for Cloud Data

Metric Stream acknowledges and agrees that Customer's communications and data that are Cloud and processed during
use of the Cloud Services ("Cloud Data") are the property of Customer and that MetricStream has only a limited right to
use the Cloud Data as follows: (a) With Customers prior consent, Metric Stream may access and disclose the Cloud Data
solely as necessary to provide access to the Cloud Services to Customer, (b) to operate and maintain its systems, and (c)
to comply with applicable laws and government orders and requests.

5.

Service Level Agreement

5,1 Availability of Cloud Services: Metric Stream will use reasonable efforts to have the Cloud Services available
twenty-four (24) hours a day, seven (7) days a week, except as set forth below.

5.11

Non-Uptime Hours: Scheduled maintenance windows may occur in Non-Uptime Hours which shall be
limited to Sunday Monday between the hours of 6:00 PM to 4:00 AM, Pacific Time. All other times
shall be designated as Uptime Hours. Up to twelve (12) hours of maintenance may be scheduled in a
given week during Non-Uptime Hours. In the event that any maintenance exceeds these limits (i.e., more
than twelve (12) Non-Uptiine Hours in a week), then Metric Stream shall credit to Customer upon
Customer's request a pro-rata portion of the monthly Cloud Service fees equal to the proportion of the
duration of the time that the maintenance occurred in excess of these limits. During certain
circumstances, third party hosting providers may have to schedule maintenance on the network outside of
these hours. Metric Stream will use its best commercial efforts to provide advanced notice to Customer of
these network maintenance periods, but maintenance performed by said third party hosting providers will
still count as part of the Uptime Hours
(and will not be treated as Non-Uptime Hours).

5.1.2

Uptime Hours: Metric Stream shall be responsible for ensuring that Downtime (which is defined as
unavailability of the Cloud Services during Uptime Hours) will not exceed four (4) hours in the aggregate
during any monthly billing period. In the event that Downtime exceeds four (4) hours during any
monthly billing period, Metric Stream will credit Customer one hour of Cloud Service fees for each period
of fifteen (15) minutes of Downtime in excess of four (4) hours during that billing period. If Downtime
for a month exceeds 25% of the available Uptime Hours in a month, then Customer may receive credit for
100%
the Cloud Services Fees for that monti.

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Downtime shall begin 10 accrue as soon as either Metric Stream or Customer (with notice to
Metric Stream) recognizes that Downtime is taking place, and shall continue until the availability of ilie
Cloud Services is restored. In order to receive Downtime credit, Customer must notify Metric Stream in
writing or via email within forty-five (45) days from the time of Downlime of Customer's desire to
receive Downtime credit, or 2) notify MetricStream in writing during the next Quarterly Meeting
(described in the next paragraph) of Customer's desire to receive Downtime credit. Credit will be
provided to Customer pursuant to Section 6.5 of the Agreement.
Quarterly meetings will be conducted via conference call between Metric Stream and Customer to discus
significant events during the quarter, such as number of issues and/or support requests during the quarter,
response times to issues, Downtime recorded during the period, and improvement ideas for both parties.
The amount of Downtime will be calculated and reported by Metric Stream to Customer during this
meeting. If Customer did not notify Metric Stream in writing within forty-five (45) days from the time of
Downtime, then in order to receive Downtime credit, Customer must notify Metric Stream in writing at
the next Quarterly Meeting of the Downtime and Customer's desire to receive Downtime credit. Failure
to provide suchi notice will forfcit the right to receive Downtime credit. These quarterly meetings are
intended to be held at least 10 days before the end of the quarter so that revenue and/or credits can be
properly accounted for during the appropriate quarter.
In the event that Metric Stream exceeds the four (4) hour monthly Downtime limit set forth herein three
times (3x) or more during a rolling twelve (12) month period, then Customer may, at its discretion,
terininate the Agreement and any applicable Order Forms, SOWs, exhibits or other attachments upon
written notice to MetricStream. Such termination shall be considered a termination for cause.

5.2 Network: Metric Stream will use reasonable efforts to ensure that network bandwidth available to Customer for
Cloud Services is equal to or exceeds 10Mb/second during all Uptime Hours. If available network bandwidth does
not meet this threshold during Uptime Hours, the period during which bandwidth is less than 10Mb/second shall
be considered Downtime.
5.3 Support Services,
5.3.1
Telephone, online and email Support MetricStream will provide support by telephone, the online
support portal, and electronic mail. The technical support telephone line will be staffed by a customer
technical support representative from 9:00 AM to 5:00 PM Pacific Time Monday through Friday,
excluding holidays scheduled by MetricStream, and subject to modification by Metric Stream at
MetricStream's reasonable discretion. In order to provide quality services, these support services may be
used by two (2) personnel designated by Customer. Metric Stream support personnel will be fluent in the
English
language.
Support Telephone Number: 1-800-858-5658
Support online:
support.metricstream.com
Support email Address:
support@metricstream.com
5.3.2
Response to Errors. MetricStream will provide Support Services to Customer to ensure a consistent and
high level of operation of the Cloud Application. In the event Customer notifies Metric Stream of an
Error, Metric Stream shall use reasonable efforts to correct Errors in accordance with the following
response times and with as little disruption to the Cloud Services as practicable:
(1)
Critical Errors. Metric Stream shall, within two (2) hours of the receipt of notice of any
Critical Error, contact Customer to verify such Critical Error and begin a resolution process.
Upon MetricStream's verification of such Critical Error, Metric Stream will use reasonable

efforts to provide a Workaround or Error Correction for such Critical Error as soon as
possible.
(ii) Severe Errors. Metric Stream shall, within four (4) hours of the receipt of notice of any
Severe Error, contact Customer to verify such Severe Error and begin a resolution process.
Upon Metric Stream's verification of such Severe Error, MetricStream will use reasonable
efforts to provide a Workaround or Error Correction for such Severe Error.
(iii) Moderate Errors. MetricStream will use reasonable efforts to provide a Workaround for
such Moderate Error. Metric Stream will provide an Error Correction for such Moderate Error
in the next scheduled patch release of the relevant software.
(iv) Minor Errors. Upon Metric Streami's receipt of notice of a Minor Error and upon
MetricStream's verification of such Minor Error, Metric Stream will initiate work to provide
Error Correction for such Minor Error in the next regular release of the relevant software.

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5.3.2.1 Exclusions from Support Services and SLA. Neither Support Services nor SLA covers services
for any failure or defect in the Cloud Services caused by: (a) the improper use, alteration, or
damage of the Cloud Services by Customer or persons not authorized by the Company,
(b) modifications to the Cloud Services not inade by or at the direction of, Metric Stream;
(c) hardware or software not authorized by Metric Stream; (d) use of the Cloud Services on
hardware that has not been provided or approved by Metric Streamn; (e) outages, or any performance
degradation caused by Customer or by its customers, service providers or contractors; (1) by
Customer's failure to comply with MetricStream's operating procedures and documentation,
Support performed by Metric Stream related to any of these exclusions will be charged to Customer

on a Time and Materials basis at MetricStream's then current rates. See Exhibit D.

Third Party Events. Metric Stream cannot control events or services outside the Metric Stream System, including actions or inactions of third parties (except for third parties expressly set forth in this Agreement or an Order Form or that are subcontractors engaged by Metric Stream) that impair Customer's connections to the Internet ("Third Party Events"). Accordingly, the SLA does not include or cover any interruption or degradation in service due to such Third Party Events.

Force Majeure Events. The SLA does not include or cover any interruption or degradation in service due to a force majeure event.

No SLA prior to Notice of Production-Level Cloud Services. The SLA does not apply prior to the date upon which Metric Stream notifies Customer that the Cloud Services are in production. Prior to delivery of this notice, Metric Stream will provide limited support to Customer between 9:00 AM and 5:00 PM Pacific Time, Monday through Friday. MetricStream will use reasonable efforts to respond within one (1) business day to requests for assistance.

6. Security. Metric Stream will use efforts and means consistent with industry best standards and practices to protect the MetricStream System and the Cloud Services against viruses, worins, Trojan horses, and other harmful elements designed to disrupt the orderly operation of or impair the integrity of Cloud Data. Metric Stream will take reasonable precautions consistent with industry best standards and practices to ensure that the security of the Metric Stream System, the Cloud Data, Customer data, and other transmissions through the Metric Stream System is not compromised for any reason.

The Cloud Application shall include an administrative interface which will provide Customer and any other party it may designate, the functionality to add and delete user accounts and associated passwords, as well as define roles, permissions and access rules for each such user account. Such roles, permissions and access rules may be assigned to individual user accounts or to a Customer-defined group of user accounts. Customer will issue and administer User

access and passwords, including additions, deletions and changes in access levels of Users.

The consideration of Information Security is of prime importance in this contract. Therefore, data being sent from
Customer to Metric Stream as well as data being retrieved from MetricStreain by Customer must be exchanged via a
fully dedicated, encrypted and secure connection. Customer and Metric Stream will ensure in-transit information
security by exchanging 1024-bit Customer encryption keys.
Metric Stream will not store Customer data on any systems not directly supporting Customer's Cloud solution or for a.
term longer than outlined in the contract between Metric Stream and Customer.
Metric Stream shall store and process Customer data only in the United States and in accordance with Section 7 of this
Agreement. Metric Stream shall not transfer Customer data to, nor permit access to Customer data from, any other
locations, nor change the locations for storage, processing or access of such Customer data, except as and to the extent
expressly permitted by this Agreement, or otherwise with the express written consent of Customer, which Customer
may withhold in its sole discretion.
While under the control of Metric Stream, Customer data must be secured from Metric Stream employees, business
partners and all other parties. If there are exceptions to this rule the identity of each party must delivered to and
approved by Customer prior to the implementation of any exception. Changes to this exception list due to the deletion
or addition of parties excepted by this rule must be formally requested by MetricStream and approved by Customer
before the exception can be implemented.
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Exhibit C
Acceptance Use and Operation Policies
ACCEPTABLE USE POLICY ("Policies")
This Acceptable Use Policy specifies the actions prohibited by Metric Stream, Inc. to Users of the Cloud Application. By
using the Cloud Application, you acknowledge that you and users that have gained access to the Cloud Application through

your account, have read, understood, and agree to abide by the Policies. You are responsible for violations of these Policies
by any User authorized by Customer to access the Cloud Application and Clo Services through the lice provided to
Customer. While it is not our intent to control or monitor your on-line communications, we may block services that we deem
to be in violation of the Policies or that we otherwise deem hannful or offensive. Any revisions to this Acceptable Use
Policy shall be done pursuant to Section 2.1 of the Agreement.

Illegal Activities

The Cloud Application may only be used for lawful purposes. Use of the Cloud Application for transmission, distribution,
retrieval, or storage of any information, data, or other material in violation of any applicable law or regulation (including,
where applicable any tariff or treaty) is prohibited. This includes, without limitation, the use or transmission of any data or
material protected by copyright, trademark, trade secret, patent, or other intellectual property right without proper
authorization and the transmission of any material that constitutes an illegal threat, violates export control laws, or is
obscene, defamatory, or otherwise unlawful,

Network and System Security

Violations of system or network security are prohibited, and may result in criminal and civil liability. Metric Stream will
investigate incidents involving such violations and may involve and will cooperate with law enforcement if a criminal
violation is suspected. Examples of system or network security violations include, without limitation, the following:

Unauthorized access to or use of data, systems or networks, including any attempt to probe, scan or test the
vulnerability of a system or network or to breach security or authentication measures without express
authorization of the owner of the system or network.

Unauthorized probing and/or scanning of any system without prior consent of the owner or system
administrator. This includes, but is not limited to, "dictionary attacks" and/or attempts to harvest or verify
email addresses,

Unauthorized monitoring of data or traffic on any network or system without express authorization of the
owner of the system or network.

Interference with service to any user, host or network including, without limitation, mail-bombing, flooding,
deliberate attempts to overload a system and broadcast attacks.

Forging of any TCP-IP packet header or any part of the header information in an email or a newsgroup
posting.
Attempt to gain unauthorized access to, or attempt to interfere with or compromise the normal functioning,
operation, or security of any network, system, computing facility, equipment, data, or information.
Engage in any activities that may interfere with the ability of others to access or use the Service or the
Internet.
Email/Usenet
Sending unsolicited mail messages, including, without limitation, commercial advertising and infomnational announcements,
is explicitly prohibited. A user shall not use another site's mail server to relay mail without the express permission of the site.
All postings to Usenet must comply with that group's usage policies. Cross-posting and/or off topic messages, including
commercial messages, is explicitly prohibited.
Nothing contained in this policy shall be construed to limit Metric Stream's actions or remedies in any way with respect to
any of the foregoing activities, and MetricStream reserves the right to take any and all additional actions it may deem
appropriate with respect to such activities, including without liimitation taking action to recover the costs and expenses of
identifying offenders and removing them from the Metric Stream service, and levying cancellation charges to cover
Metric Stream costs in the event of disconnection of dedicated access for the causes outlined above.
If you become aware of any violation of these Policies by any person, including Users that have accessed the Service
through your account, please notify us at support meiriostream.com. We will notify you, our Customer, of complaints
received by us regarding each incident of alleged violation of these Policies by your Users of the Service. You agree to
promptly investigate all such complaints and take all necessary actions to remedy any actual violations of these Policies, Wc
may identify to the complainant that you are investigating the complaint and may provide the complainant with the
necessary information to contact you directly to resolve the complaint. You shall identify a representative for the purposes of
receiving such communications. Additionally, any data sent to Metric Streamn, Inc., by either the complainant or our client or
any other party sending data to us, including but not limited to header information, log file information, alleged abuse, and

any personal subscriber or alleged subscriber information, remains the
intellectual property of the sender; however,
Metric Stream, Inc. may use that information to resolve the dispute,
including but not limited to, providing that information
to either the complainant, our client, or other party that MetricStream, Inc.
decmis as qualified in assisting in the resolution in

MetricStream
such disputes. We also reserve the right to install and use, or to have you
install and use, any appropriate devices to prevent
violations of these Policies, including devices designed to filter or
terminate access to the Cloud Application provided by us.
*** .....

MetricStream
Exhibit D:
Statement of Work (SOW) Template
For
Federal Home Loan Bank of Chicago
Submitted By
Metric Stream, Inc.
2600 East Bayshore Road
Palo Alto, CA 94303
Email: kreindl@metricstream.com
Date
Submitted to
Federal Home Loan Bank of Chicago
200 E Randolph Drive, Floor
Chicago, IL 60601
Email:
Confidentiality Notice
This document constitutes confidential information and contains proprietary
information belonging to both parties.

MetricStream

Statement of Work ("SOW") to Application Service Provider Agreement,
dated November 15, 2016
Between MetricStream, Inc. ("Metric Stream" or "Company")
and Federal Home Loan Bank of Chicago ("Bank" or "Customer") (the
"Agreement")
This Statement of Work ("SOW") is entered into pursuant to the Agreement. In
the event of any inconsistencies between the
terms outlined in this SOW and the Agreement, the terms of the Agreement
shall govern except that a term in this SOW that
specifically references a conflicting term or condition of the Agreement will
control solely with respect to the services
covered under such SOW. All capitalized terms not otherwise defined herein
shall have the meanings given to such terms in
the Services Agreement. This SOW may be changed only by a written agreement
signed by an authorized representative of
Metric Stream and of Customer.
1.
Project Overview
1.1
Project Namie
1.2
Application Functionality
1.3 Deliverables
The Deliverables under this SOW are the following:
1.4 Project Approach
Metric Stream shall execute this project with the following approach;
1.5 Project Timeline -f ***Updated table to be provided by Metric Stream)
This timeline represents an estimate based on the parties current
understanding and is subject to change by mutual
agreement of the parties. The final implementation plan may be inodified by
the parties at the end of requirement analysis.
1.6 Project Scope
Scope Inclusions
Scope Exclusions
2. Project Assumptions
Assumptions for this project include:
A change control process (the "Change Request" process) shall be in place to
address any specific changes. Any
changes shall be incorporated only after Metric Stream and Customer agree on
the impact of the changes to the project
plan, resources and costs. Rates for changes shall not exceed those as set
forth in Section 4.1.
Availability of resources.
Metric Stream will provide fully qualified personnel to perform the Services.

Availability of both parties' resources to perform the Services, complete reviews and provide information as required for the
project. Customer shall ensure that its personnel required for this project shall be made available to work with Metric Stream
personnel onsite at the Customer location typically for one (1) week if required, and that these personnel have the authority
to determine the corporate business process requirements that shall be implemented in the software.
Each party shall provide a project manager or coordinator to oversee this project. This person shall manage the project
schedule, status reports, coordination, and provide oversight to ensure that all business and user requirements are provided
and met. The Customer project manager shall also be responsible for informing the Customer business owner of the project
status, progress and issues, which Customer business owner shall have the authority to make business decisions regarding

MetricStream
Web
the project. MetricStream's project manager will be responsible for providing weekly status reports and other project updates
as reasonably required.
Only Metric Stream functionality identified as available in the Application shall be implemented.
All documentation shall be provided from MetricStream in MSOffice and/or PDF document formats using an agreed
upon template. The templates shall be the property of the party that provides the agreed upon template.
While the Metric Stream platform can support multiple languages, only translations in English are being provided in this
proposal. Translations to other languages shall be at additional cost and in a subsequent phase to this implementation.
Metric Stream is anticipating using resources from both US and India to complete this project.
3. Adequacy of Services and Reliance
MetricStream represents and warrants that the Services and Deliverables set forth in this SOW are adequate to complete the
project based upon the representations of the Customer, and acknowledges and agrees that the Customer has relied on
MetricStream's expertise in determining the appropriate Services and Deliverables to complete the project and the scope as

set forth in this SOW.

4.

Payment Terms

Fees

Travel and lodging will be billed as set forth in

Professional Service fees for this project will be fixed at $

Section 6 of the Agreement.

Should Customer request additional services outside the scope of this implementation, MetricStream and Customer

shall mutually agree on the additional effort using our change control process. Additional services may be delivered for

a fixed fee or on a time and material basis at the rates specified below.

Role

Resource Location

Hourly Rates in USD ($)

4.2

Invoices

MetricStream shall invoice professional Service fees according to the following schedule. Expenses relating to authorized

travel and related lodging shall be billed as incurred

No.

Milestones

%

Fees

Total

100%

MetricStream shall submit invoices to Customer and Customer will pay MetricStream within thirty (30) days of receipt

of invoice, in accordance with Section 6 of the Agreement.

if Customer reasonably determines that progress on any Services or Deliverables was not met, it shall be entitled to withhold

payment of fees, provided that Customer shall promptly pay Metric Stream such withheld fees upon MetrieStream's

completion and Customer's acceptance of such Services or Deliverables.

5. Acceptance and Acceptance Criteria

Acceptance criteria at each milestone as suinmarized below. Compliance with all technical and functional specifications and

requirements, including successful implementation in Customer's designated production environment is included in the

acceptance criterion for all software Deliverables.

Milestones

Kickoff

Deliverable

Kickoff presentation/data

configuration workbooks
Sandbox Set-Up & Training
Training materials for all.
delivered solutions, which include
system admin training
Acceptance
Metric Stream has completed the onsite
working sessions and the data
configuration workbooks have been
completed by the Customer.
Training completion (train the trainer) of
Customer core project leam members and
Metric Stream has successfully setup the
Customer's sandbox environment
Customer signs-off on final configuration
workbook, to be used by Metric Stream
as the data to be uploaded for setting up
Configuration Workbook
Sign-Off
Workbook on system
configuration, as well as data
upload templates

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UAT Environment Set-Up &
User Acceptance Testing,
Sign-Off
the UAT environment
Final UAT sign-off by customer that all
testing is completed
Set-up of UAT environment for
Customer to test system
configuration, functionality and
performance
Use case simulation completion
and move to production is ready
Production Application
Provisioning
Production Acceptance
Delivery of setup and tested
Application modules as defined in

this SOW in Custoiner designated production instance

Customer has successfully performed use case simulation and certified acceptance in writing.

Production instance is validated by Customer as fully functioning in accordance with Application and system specifications and ready for commercial deployment, and Customer has certified acceptance in writing

Customer shall be responsible for testing all Application module Deliverables for compliance with all technical and functional specifications. In addition to all other delivery and acceptance requirements, in order for the Application to go live, no outstanding blocker or critical UAT defects shall exist. Blocker and critical UAT defects are defined in the following table:

Definition

Prevents Delivery

Severity

Blocker

Prevents function from being used, no work-around, blocking progress on multiple fronts

Prevents function from being used, no work-around

Critical

Yes

Once a Deliverable is complete, MetricStream shall submit such Deliverable for Customer's review and rejection or approval. Within fifteen (15) business days of receipt of such Deliverable, or as otherwise agreed between the parties, Customer shall either accept or reject such Deliverable in writing. Written rejection of a Deliverable shall include written notification of the errors or non-conformance ("Notification"),

Upon receipt of written Notification of errors or non-conformance, Metric Stream shall address the reported errors or non-conformance and provide a revised Deliverable within five (5) business days, or as otherwise agreed between the parties.

Within fifteen (15) business days of receipt of such revised Deliverable, or as otherwise agreed between the parties, Customer shall either accept or reject such revised Deliverable in writing and Metric Stream shall address the reported errors

or non-conformance and provide a revised Deliverable within five (5) business days, or as otherwise agreed between the
parties. Within fifteen (15) business days of receipt of such revised Deliverable, or as otherwise agreed between the parties,
Customer shall either accept or reject such revised Deliverable in writing. Written rejection of a revised Deliverable shall
include revised Notification if any Deliverable requires more than two revisions,
In the alternative, if a workaround exists, that addresses the reasons for Customer rejection of a Deliverable, and is mutually
agreed to by the Customer and Metric Stream, then MetricStream and Customer shall continue work on the next Deliverable
as defined in the project plan while the reasons for the rejection are addressed. This procedure shall not constitute acceptance
of the Deliverable or a waiver of any right Customer may have with regard to such Deliverable,
In the event of non-Notification from the Customer within the agreed upon period, the Deliverable shall be deemed accepted.
The parties may modify the above timeframes by mutual agreement.
6. Modifications for Delay
Except for any event of force majeure as described in Section 9.11 of the Agreement, the parties agree that the following
provisions shall apply in the event of certain delays:
1. In the event a delay in the project timeline occurs due to Customer's resources not providing reasonable support to
complete or review the Deliverables identified in the project plan, MetricStream may request a change request to modify the
terin of this SOW as well for any modification to the professional fees applicable to the modified term.
2. In the event of a delay by more than ten (10) days in the completion of any project phase, as identified in the
formal project plan, which delay is solely attributable to either party, both parties agree that either party shall have the right
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MetricStream
to requesi a change order to modify the professional fee and time for performance. If either party reasonably determines that
a delay by the other party may affect the project plan, such non-delaying party shall notify the other party in writing,
Customer's resources not providing reasonable support to complete or review the Deliverables identified in the project plan,

shall make the customer liable to pay for the additional cost that Metric
Stream shall incur to keep its resources on the project
for the delayed timeline. Metric Stream's not providing reasonable efforts to
complete or deliver the Deliverables identified
in the project plan shall make Meiric Stream liable for the additional costs
that Customer may incur to keep its resources
available to support Metric Stream's production and delivery of the
Deliverables.
3.
In the event of MetricStream's inability to provide resources in a timely
fashion to complete Deliverables
identified in the project plan, Metric Stream shall not bill the Customer for
the additional time. To the extent MetricStream
must work beyond the designated project period to complete its commitments
due to a failure to perfom Services or provide
Deliverables at the agreed upon level of satisfaction, Metric Stream shall
continue its Services to reach such level of
satisfaction at no additional fees, provided that there is no change in scope
or Deliverables that shall adversely impact the
designated project timeline.
7.
Governance
7.1 Project Team
The table below provides the roles of the various Metric Stream professional
services team members thal may provide
Services under this SOW.
Role
Description
7.2
Escalation Matrix
RESPONSIBILITY
NAME
PHONE
EMAIL
7.3. Location
MetricStream will provide all Services and deliver the Deliverables in
accordance with Section 7 of the Agreement.
MetricStream will be responsible for coordinating the Services to be provided
pursuant to this SOW in a manner
corresponding to U.S. time zones, and the use of resources based in non-U.S.
times-zones will not interfere with
relevant implementation and support turnaround times.
8.
Roles and Responsibilities

8.1 MetricStream Responsibilities

MetricStream's responsibilities for this project include:

8.2 Customer Responsibilities

Customer's responsibilities for this project include:

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MetricStream

8.3

O

Change Request

What constitutes a Change Request?

Any request for a change that has an impact on project costs, resources, deliverable dates or

functionality is a Change Request, Rejection of Deliverables in accordance with the requirements of

Section 5 of this SOW, and related notifications are not Change Requests.

When does a Change Request go into effect?

Upon written agreement by both parties.

Who can initiate a Change Request?

Client Project Manager or MetricStream Project Manager

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Who can approve a Change Request?

Authorized Client and Metric Stream representatives,

A Change Request may take the following form or some other mutually agreed upon by Client and Metric Stream.

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MetricStream

Form

Change Request Form

Change Request No:

CR Status:

Release:

Required by Date:

Change Request Title:

Priority:

Description:

Raised By:

Allocated To:

Raised Date:

Impact Assessment Summary
Description of Impact(s)
Effort
(person-Days)
Cost
Cost Impact
Required effort impacts timeline
Other Work Affected by Change Request
Required Effort in Person Days - Total
Estimated Delivery Date
Does the Business Unit Need to Be Informed of This CR:
Impact of not implementing change:
Approval
Position
Name
Signature
Date
MetricStream Solutions Manager
Client Project Manager
Reason for rejection/suspension:
Info Copies to be sent to:

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9. Signature Page

THE PARTIES HERETO have caused this statement of Work to be executed by their duly authorized representatives.

FEDERAL HOME LOAN BANK OF CHICAGO
METRICSTREAM, INC.
Dand
By:
By:
Name:
Name:
DAVID A. KEEFE
Title:
Title:
UP FINANCE
December 29, 2016
Date:
Date:

MetricStream

Exhibit E

Data Protection Protocols

This Data Protection Protocols sets forth the data protection and security protocols (collectively, the "Protocols") that
Company will apply with regard to maintaining the security and privacy of, and guard against the unauthorized access to or
alteration or destruction of, Customer Data, including any nonpublic personal information contained in such Customer Data,
by any Company Personnel in connection with the performance of Services under the Agreement or by third parties.

1.

General

2.

In the event of a conflict or inconsistency between the terms of the Agreement or the applicable Statement of Work and these
Protocols, these Protocols shall govern. Capitalized terms used herein, but not defined, shall have the meanings ascribed to
them in the Agrcement.

As used in these Protocols, Data Protection Personnel (hereafter, "DPP Personnel") means the Company Personnel that have
access to, receive, process or use Customer Data in connection with the Services.

Accountability

Company will assign an employee as the Company Data Protection Executive to have overall accountability for
Company's implementation of, and compliance with, the Protocols.

Company will assign an employee to the role of the Data Protection Steward ("DPS") to drive implementation and
manage ongoing compliance by Company with the Protocols.

3. Physical Security

Company will implement, monitor and maintain reasonable physical security controls consistent with then-current
industry standards for all Company Locations from which Company performs the Services (e.g., use cable locks,
use screen locks, secure portable devices and hard copies in cabinets). Such controls will comply with applicable
laws.

Company will conduct regularly scheduled walkthroughs of such Company Locations to validate that Company

Personnel are abiding by the applicable security requirements set forth in this Exhibit E and the Agreement.

4.

Access Contro]

Company will be responsible for controlling and tracking access by DPP Personnel to Customer Data, Company
shall restrict DPP Personnel from accessing, or allowing access to, any Customer Data to which they arç noi
permitted access under the Agreement or the applicable Statement of Work. If unauthorized access constitutes a
Security Breach, Company shall as soon as practicable report such incident to the Bank, describe in detail the
accessed Customer Data and return to Bank any copied or removed Customer Data.

Company will require all DPP Personnel to enter a user ID and password prior to gaining access to any Customer
Data.

Company will maintain a roster of all DPP Personnel who are authorized to and will have access to Customer
Data, documenting (a) the level of access granted, (b) the type of access authorized, (c) the date such access was
granted and, if applicable, the date access was revoked, and (d) any automated application or system login ID that
is administered and/or requested by such DPP Personnel. Company will control and track the addition and
deletion of DPP Personnel from the roster.

Company will review the roster at least quarterly, or as otherwise agreed to by the Parties in writing, to confirm
that access levels are still appropriate for individual roles and to confirm that all departures have been processed
correctly.

.. Access for DPP Personnel departing the engagement will be revoked within two (2) business days of departure,
unless circumstances require inmediate revocation,

Company will designate specific individuals to administer, manage and document access requests from DPP
Personnel team members requesting access to Customer Data.

Company will establish a pre-defined authority that is separate from the requestor to approve user IDs.

Reinote access by DPP Personnel into Bank Systems will require two-factor authentication.

Each individual DPP Personnel will use luis/her own unique username and password to access Customer Data,

which will be provided by Company. Each username will be associated with a specific individual DPP Personnel
in the roster. Usernames and passwords will not be shared.
The source of requests for a password change will be verified before a new password is provided.

MetricStream
5.
Passwords for application IDs or service IDs will be changed within two (2) business days of departure of any
person with knowledge of the password.
Company will provide notification to any individual when he/she is assigned to a System Administrator role.
All System Administrators will be listed on a log established for said purpose. The log must include eachi System
Administrator's name, role, the date access granted and the date access terminated (if applicable).
Least Privileged Access
Company Personnel may only access Customer Data for which they have been authorized. Company will provide
to DPP Personnel access to Customer Data only to the extent that is necessary and appropriate for their roles and
responsibilities, using the concept of least privileged access. To give proper access, a separate new user ID may
need to be created rather than extending access rights of an existing user ID.
When applicable, Company will establish logical separation between environments (e.g., development; testing,
production) so that an individual can be granted access to one environment without being able to access the other
environments.
6.
When assigning responsibilities, Company will apply the concept of segregation of duties so that no individual
person has access to perform tasks that could create a security conflict of interest (e.g., developer/reviewer,
developer/tester).
Password Management
Company will communicate passwords to users in a secure manner, separately from user IDs. Company will

require that electronic communications of passwords be encrypted. Company will require that passwords be stored
securely (in password vault or equivalent).
Company will require initial user passwords to be changed during the first logon to any Company system
containing Customer Data.
Company will require that System Administrators change their passwords every thirty (30) days. System
Administrator passwords must be significantly different from the previous twelve (12) passwords, whether or not
the system enforces such differences.
$
7.
Company will train Company Personnel to use distinctive passwords for different systems (eg, Bank, Company
and personal).
Approved Devices
Shared or public computers may not be used to access Customer Data.
Company policies for use of Company-provided and personally-owned devices that may be used to access
Customer Data will be enforced by Company.
Company guidelines for use of Bank-provided devices that may be used to access Customer Data will be
established and enforced.
Company guidelines for use of subcontractor devices that may be used to access Customer Data will be established
and enforced.
8.
Upon termination of the Services, Company will require that all Customer Data will be wiped from all devices
assigned for the provision of the Services to Bank.
Encryption
Hard disk encryption is required on all workstations (whether owned by Company, Bank or a subcontractor) that
are used by Company Personnel in the provision of the Services.
Company will encrypt its transmissions of Bank nonpublic personal information via the internet at minimum 128-
bit AES encryption
Company will encrypt all Bank nonpublic personal information that it transmits or stores via mobile media.
All files containing Bank nonpublic personal information "at rest" outside of application environments (e.g.,
document repositories such as SharePoint or file share) at the file level for which Company is responsible will be

encrypted.
Any Company workstation or laptop containing Customer Data must be backed up using a bit locker encrypted
external disk or a backup tool that provides at a minimum 256 bit AES encryption, or if done at a Company
Location, Company's internal backup system, provided that such backup system performs backups in a manner that
is consistent with those that would result from the tool specified above.

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All database backups for which Company is responsible will be encrypted.
Company provided encrypted (c.g. Ironkey or bitlocker) devices are the only acceptable form of mobile media to
store files containing Customer Data.
Transmission of Data
9.
Company will use a professional grade courier when using third party transport of hard copy or mobile media
containing Customer Data that meets the following requirements.
0
Courier must be tracking cnabled;
0
Courier must be bonded and insured where locally applicable; and
The use of any non-secure email account (including Company or personal email) to transmit Bank Materials is
prohibited. Company will either require links to secured file share, or SFTP, for electronic transmissions or will
limit such transmissions to within the Bank's email domain.
The fax recipient of any Customer Data will be notified prior to the fax being transmitted and verified after the fax
has been transmitted,
The use of Text/IM/SMS to transmit Customer Data is prohibited.
A chain of custody log will be created whenever hard copy or mobile media containing Customer Data is
transported.
10,
Training
Company will require all DPP Personnel are appropriately trained in the data protection requirements of this
Exhibit E, and completion of such training will be tracked by Company.

Company will confirm that all DPP Personnel have completed project specific training that includes any Bank
requirements for access to Customer Data.

11.

Movement of People Between Projects
Company will maintain records to confirm that all DPP Personnel comply with the Protocols upon entering and departing the
engagement, and such records shall be completed within thirty (30) days or any other mutually agreed timeframe.

12.

Data Disposal
Company will securely delete, destroy or, if feasible, return to the Bank, any Customer Data that is no longer
required in the performance of the Services.
Hard copies containing Customer Data will be physically destroyed via crosscut shredder or deposit in a secure
shred bin,
Electronic files or objects, including physical media, containing Customer Data will be securely deleted/destroyed
using craser or approved equivalent promptly after the Customer Data is no longer needed.
Company will provide an affidavit of destruction if requested by Bank.

13,

Security Breaches
Company will maintain a centralized management response plan and require that all Company Personnel promptly
report to a centralized management response center any actual or suspected Security Breach in accordance with its
internal policies.
If Company reasonably believes that a Security Breach is likely to occur or determines that there has been an
actual Security Breach, Company shall: