



DeWight Dopslauf, C.P.M., CPPO
Harris County Purchasing Agent

July 21, 2022

Commissioners Court
Harris County, Texas

RE: Sole Source Exemption - Local Government Code § 262.204 (a)(7)

Members of Commissioners Court:

Please approve the attached Order(s) authorizing the County Judge to execute the attached Fourth Amendment to the Agreement(s) for the following:

Description: Back Office Enhancement & Augmentation Toll Collection System (BEATS) for the Harris County Toll Road Authority

Vendor(s): Electronic Transaction Consultants, LLC

Amount: \$14,500,000 previously approved funds for the term 09/01/2021 - 08/31/2022
19,000,000 additional funds for the term 09/01/2021 - 08/31/2022
\$33,500,000

Reviewed By: • Harris County Purchasing • Toll Road Authority

The Amendment increases funding, adds additional scope for the migration of Central US Interoperability (CUSIOP) databases, hardware, applications and services to the Oracle Cloud Infrastructure (OCI) and modifies the payment schedule of the on-demand training, staffing and support services to be utilized on an as needed basis . Purchase order(s) will be issued upon Commissioners Court approval.

Sincerely,

DeWight Dopslauf
Purchasing Agent

JP
Attachment(s)
cc: Vendor(s)

FOR INCLUSION ON COMMISSIONERS COURT AGENDA AUGUST 02, 2022



**FOURTH AMENDMENT to the AGREEMENT BETWEEN
HARRIS COUNTY and ELECTRONIC TRANSACTION CONSULTANTS,
LLC**

THE STATE OF TEXAS §

COUNTY OF HARRIS §

This is the Fourth Amendment to the Agreement between Harris County (the “County”), a body corporate and politic under the laws of the State of Texas and acting by and through Harris County Toll Road Authority (“HCTRA”), and Electronic Transaction Consultants, LLC (“ETCC”), a limited liability company organized under the laws of the State of Delaware.

Recitals

WHEREAS, on October 23, 2018, Harris County Commissioners Court approved a Back Office Enhancement and Augmentation Toll Collection System (BEATS) Agreement (the “Agreement”) between the County and ETCC for ETCC to provide the County with enhancement and augmentation services compatible with the proprietary Back Office Toll Collection System previously designed and implemented by ETCC for the Harris County Toll Road Authority;

WHEREAS, on February 11, 2020, Harris County Commissioners Court approved the First Amendment to the Agreement to provide additional functionality to the In-House Collection Project to be compatible with the proprietary Back Office Toll Collection System previously designed and implemented by ETCC for the Harris County Toll Road Authority;

WHEREAS, on June 30, 2020, Harris County Commissioners Court approved the Second Amendment to the Agreement to add additional funds to pay for continued enhancements and upgrades to the In-House Collection Project to perform Administrative Hearing and Litigation Modules be compatible with the proprietary Back Office Toll Collection System previously designed and implemented by ETCC for the Harris County Toll Road Authority;

WHEREAS, on August 24, 2021, Harris County Commissioners Court approved the Third Amendment to the Agreement to add additional scope for On-Demand Training, Staffing and Support to be utilized on an as needed basis to support HCTRA and supplement training and triage of customer issues;

WHEREAS, the County wishes to amend the Agreement a fourth time to add additional scope for the migration of Central US Interoperability (CUSIOP) databases, hardware, applications and services to the Oracle Cloud Infrastructure (OCI), replace the Third Amendment, Exhibit A-1 Payment Schedule section for On- Demand Training, Staffing and Support to be utilized on an as needed basis to support HCTRA, provide supplement training and triage of customer issues and add additional funding;

WHEREAS, ETCC has been designated as a sole source pursuant to Tex. Loc. Gov't Code, Chapter 262, and this amendment is exempt from the competitive bidding laws.

NOW, THEREFORE, the County and ETCC, in consideration of the mutual covenants and agreements contained herein, do mutually agree as follows:

I.

The scope of services for On Demand Training, Staffing & Support identified in the Third Amendment is modified and amended by the replacement of the Third Amendment, Exhibit A-1 Payment Schedule section with Exhibit A-2 Payment Schedule and Exhibit B-1 to add Migration of Central US Interoperability (CUSIOP) databases, hardware, applications and services to the Oracle Cloud Infrastructure (OCI) Statement of Work.

II.

When services rendered under this Fourth Amendment (hereinafter "Amendment"), ETCC shall be compensated per the attached rate chart identified within Exhibit A-2 and B-1 Statement of Work(s).

III.

LIMIT OF APPROPRIATION

Contractor understands and agrees, said understanding and agreement also being of the absolute essence of this Amendment, that the total maximum compensation that Contractor may become entitled to for the Services performed under this Amendment, and the total maximum sum that the County shall become liable to pay to Contractor under this Amendment for the Services shall not under any conditions, circumstances, or interpretations thereof exceed the sum of Nineteen Million and No/Dollars (\$19,000,000.00). Notwithstanding anything to the contrary, or that may be construed to the contrary, the County's liability under the terms and provisions of this Amendment is limited to said sum; and when all the funds so certified are expended, Contractor's Services shall cease without any penalty and with no additional obligation without a further executed amendment.

IV.

It is expressly understood and agreed that the Agreement, First Amendment, Second Amendment and Third Amendment are attached to this Fourth Amendment and incorporated herein by reference. In the event of any conflict between the terms and

provisions of this Fourth Amendment, or any portion thereof, and the terms and provisions of any other part or portion of the Agreement, this Fourth Amendment shall control.

V.

All other terms and provisions of the Agreement shall remain in full force and effect as originally written and subsequently amended.

VI.

Execution, Multiple Counterparts: This Fourth Amendment may be executed in several counterparts. Each counterpart is deemed an original. All counterparts together constitute one and the same instrument. Each Party warrants that the undersigned is a duly authorized representative with the power to execute this Fourth Amendment.

VII.

All other terms and provisions of the said Agreement shall remain in full force and effect as originally written.

SIGNATURE PAGE FOLLOWS]

Executed on the _____ day of _____, 2022.

APPROVED AS TO FORM: HARRIS COUNTY
CHRISTIAN MENEFE, County Attorney

DocuSigned by:
By Marcy Linebarger
0B97D5E185374E3...

MARCY LINEBARGER
Assistant County Attorney

By _____

LINA HIDALGO
County Judge

ELECTRONIC TRANSACTION
CONSULTANTS, LLC

DocuSigned by:
By: David Mace Roberts
B1BC9B09F0AC405...
Name: David Mace Roberts
Title: General Counsel

 **ETC**[®]
APPROVED - LEGAL 

Exhibit A-2

Payment Schedule

The County will pay the hourly rate for Contractor's personnel per the hourly rates and any associated, documented direct expenses as provided below. For On-Demand Training, Staffing and Support Services performed under the Third Amendment Exhibit A-1 only, items requiring third party subcontractors shall be billed at a maximum of fifteen percent (15%) above Contractor's cost and for third party suppliers, a maximum of ten percent (10%) for materials above Contractor's cost will be allowed on the items. No percentages will be allowed on tax.

Hourly labor rate schedule for hourly services performed by Contractor's personnel (W2 & 1099):

Function	Price per Hour for Contractor Personnel
CSR, Call Center	\$38.00
Lead Call Center	\$40.00
Supervisor Call Center	\$46.00
Operations Program Manager	\$110.00
Manager, Application Support	\$62.00
Business Reporting Analyst	\$62.00
Workforce Management Analyst	\$52.00
Training & Quality Manager	\$103.00
Clerk, Quality Assurance I	\$39.00
Training Assistant CSC Operations	\$29.00
Receptionist	\$36.00
IT Desktop Support Specialist	\$82.00
Human Resource Generalist	\$103.00
Senior Projects Consultant	\$250.00
Bi-lingual CSR	\$41.00
Administrative Assistant	\$55.00
UI Architect	\$190.00
UI Researcher	\$170.00
UI Designer	\$180.00

Maximum Reimbursable Direct Expenses

Mileage	Per Mile	Current IRS Rate
Courier/FedEx Delivery	Each	\$25/Maximum
Airfare	Each	\$1000/Maximum
Hotel	Per Day	\$150/Maximum
Rental Car (not including tolls)	Per Day	\$100/Maximum
Rental Car Fuel	Each	At Cost
Meals	Per Day	\$40/day
Parking	Each	\$20/Maximum
Outside Printing Services	Each	At Cost
Copies	Each	At Cost

Exhibit B-1

STATEMENT OF WORK FOR CLOUD MIGRATION SERVICES:

[July 2022]

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1. Purpose

This Statement of Work (SOW) describes the goals that the Harris County Toll Road Authority (HCTRA) expects to achieve with regard to migration of Central US Interoperability (CUSIOP) databases, hardware, applications and services to the Oracle Cloud Infrastructure (OCI). The primary goal of this acquisition is to migrate CUSIOP applications to OCI that will result in improvements in efficiency, agility, innovation, and sustainability.

2. Scope

This SOW addresses work associated with the following activities:

1. Migrate the existing CUSIOP Hub environments listed below to Oracle Cloud Infrastructure (OCI)
 - a. Development
 - b. Test
 - c. Pre-Production
 - d. Production
 - e. Disaster Recovery (DR)
2. Create the following environment on OCI.
 - a. Integration
3. Migration & Testing Effort

3. Period and Place of Performance

The base Period of Performance will be 12 months from date of the amendment. OCI has two data centers, one in Phoenix, AZ (PHX) and the second one in Ashburn, VA (ASH).

Each of the environments and the location is located below.

Environment	Location
Development	PHX
Test	PHX
Pre-Production/User Acceptance Testing (UAT)	PHX
Production	ASH
Disaster Recovery (DR)	PHX
Integration	ASH

4. Background

The two main drivers of this effort are the increasing benefits and mandates for cloud migration and data center consolidation.

End of Life Hardware: The hardware for the CUSIOP project was purchased in 2015 is nearing its end of life. USC (CUSIOP hardware from Cisco) will no longer be supported as of November 21, 2021. In addition

to the end of life hardware, the operating system OS 6.x is coming to end of life in May of 2021. The current databases are on Oracle 12.x and needs to do the upgrade to Oracle 19c by end of 2021. It is prudent that while replacing the hardware we upgrade to the supported version of OS and database.

Data Center Consolidation: HCTRA also plans to reduce the IT footprint for CUSIOP agencies through the consolidation of traditional data centers to promote the use of Green IT, reduce the cost of data center hardware, increase the overall IT security posture of the government, and shift IT investments to more efficient computing platforms and technologies.

These two drivers, highlight the importance of harnessing these fundamental shifts in IT investment patterns to increase IT efficiencies and cut IT costs.

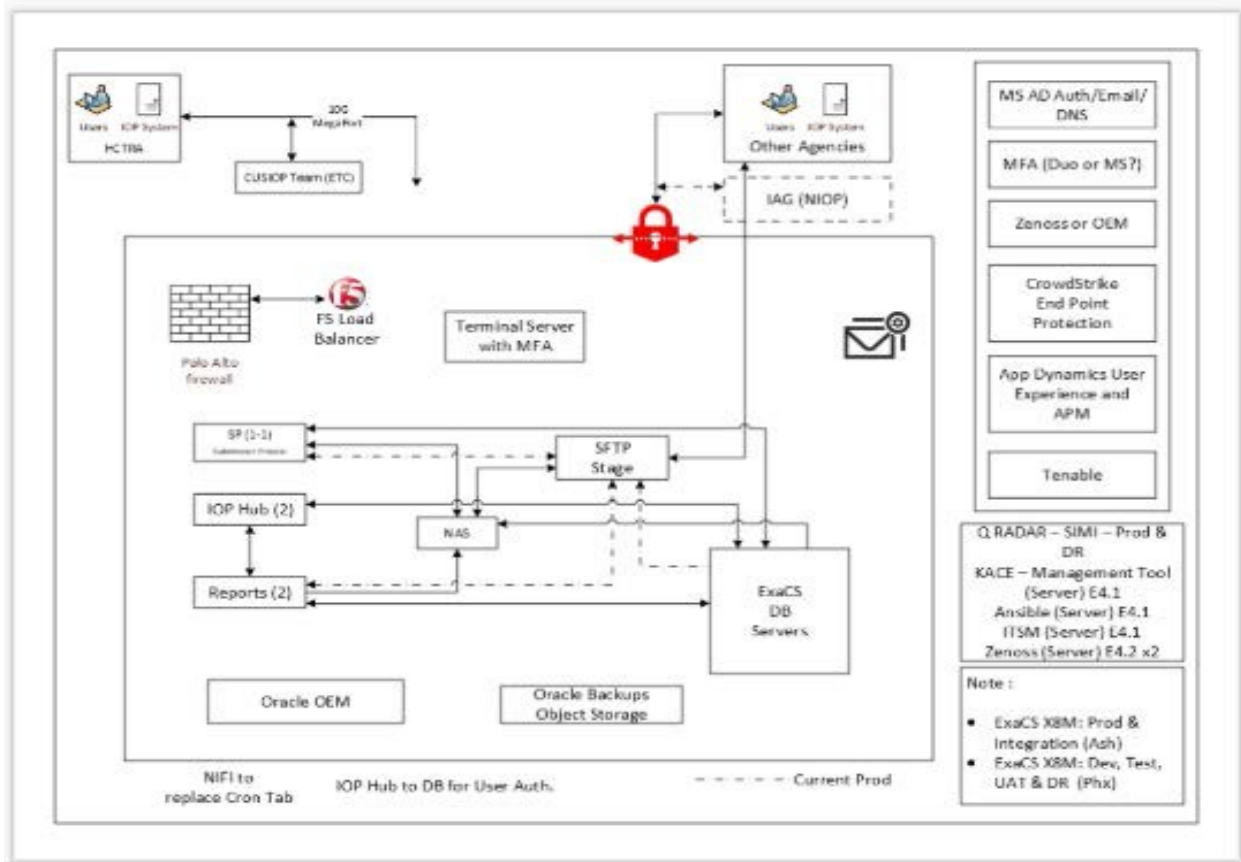
5. Current Environment

Below is brief, high-level description of the current CUSIOP environment for the target applications and/or services to be moved to the cloud.

Environment	Function	Tier	Platform/Virtualization	Server	CPU	Memory (GB)	Storage (GB)	Java	OS Version
Dev	CUSIOP Hub Webservices and SP	Application	UCS-B200-M3/VMWare	iap01dd	4	8	180	1.8.0_221	Oracle Linux 7.9
Dev	CUSIOP Hub Report server	Application	UCS-B200-M3/VMWare	iap02dd	4	8	180	1.8.0_221	Oracle Linux 7.9
Dev	CUSIOP Hub application	Application	UCS-B200-M3/VMWare	iap03dd	4	8	180	1.8.0_221	Oracle Linux 7.9
Test	CUSIOP Hub Webservices and SP	Application	UCS-B200-M3/VMWare	iap01dt	4	8	180	1.8.0_221	Oracle Linux 7.9
Test	CUSIOP Hub Report server	Application	UCS-B200-M3/VMWare	iap02dt	4	8	180	1.8.0_221	Oracle Linux 7.9
Test	CUSIOP Hub application	Application	UCS-B200-M3/VMWare	iap03dt	4	8	180	1.8.0_221	Oracle Linux 7.9
Test/Dev	CUSIOP Hub SFTP Server	Application	UCS-B200-M3/VMWare	iap04dt	4	8	180	1.8.0_221	Oracle Linux 7.9
Test/Dev	CUSIOP Hub database	Database	T5-2/LDOM		32	32	4,000		Solaris 11.4 (Sparc)
Pre-Prod	CUSIOP Hub Webservices and SP	Application	UCS-B200-M3/VMWare	iap01du	4	32	180	1.8.0_221	Oracle Linux 7.9
Pre-Prod	CUSIOP Hub Report server	Application	UCS-B200-M3/VMWare	iap02du	4	32	180	1.8.0_221	Oracle Linux 7.9
Pre-Prod	CUSIOP Hub application	Application	UCS-B200-M3/VMWare	iap03du	4	32	180	1.8.0_221	Oracle Linux 7.9
Pre-Prod	CUSIOP Hub SFTP Server	Application	UCS-B200-M3/VMWare	iap04du	4	32	180	1.8.0_221	Oracle Linux 7.9
Pre-Prod	CUSIOP Hub database	Database	T5-2/LDOM	idb01du	32	32	7,000		Solaris 11.4 (Sparc)
Prod	CUSIOP Hub Webservices and SP	Application	UCS-B200-M3/VMWare	iap01dp	6	32	3,000	1.8.0_221	Oracle Linux 7.9
Prod	CUSIOP Hub Report server	Application	UCS-B200-M3/VMWare	iap02dp	6	32	180	1.8.0_221	Oracle Linux 7.9
Prod	CUSIOP Hub application	Application	UCS-B200-M3/VMWare	iap03dp	6	32	180	1.8.0_221	Oracle Linux 7.9
Prod	CUSIOP Hub SFTP Server	Application	UCS-B200-M3/VMWare	iap04dp	6	32	180	1.8.0_221	Oracle Linux 7.9
Prod	CUSIOP Hub Webservices and SP	Application	UCS-B200-M3/VMWare	iap05dp	6	32	180	1.8.0_221	Oracle Linux 7.9
Prod	CUSIOP Hub Report server	Application	UCS-B200-M3/VMWare	iap06dp	6	32	180	1.8.0_221	Oracle Linux 7.9
Prod	CUSIOP Hub application	Application	UCS-B200-M3/VMWare	iap07dp	6	32	180	1.8.0_221	Oracle Linux 7.9
Prod	CUSIOP Hub database	Database	T5-2/LDOM	idb01dp	32	48	24,500		Solaris 11.4 (Sparc)
DR	CUSIOP Hub Webservices and SP	Application	UCS-B200-M3/VMWare	iap01ap	6	32	3,000	1.8.0_221	Oracle Linux 7.9
DR	CUSIOP Hub Report server	Application	UCS-B200-M3/VMWare	iap02ap	6	32	180	1.8.0_221	Oracle Linux 7.9
DR	CUSIOP Hub application	Application	UCS-B200-M3/VMWare	iap03ap	6	32	180	1.8.0_221	Oracle Linux 7.9
DR	CUSIOP Hub SFTP Server	Application	UCS-B200-M3/VMWare	iap04ap	6	32	180	1.8.0_221	Oracle Linux 7.9
DR	CUSIOP Hub Webservices and SP	Application	UCS-B200-M3/VMWare	iap05ap	6	32	180	1.8.0_221	Oracle Linux 7.9
DR	CUSIOP Hub Report server	Application	UCS-B200-M3/VMWare	iap06ap	6	32	180	1.8.0_221	Oracle Linux 7.9
DR	CUSIOP Hub application	Application	UCS-B200-M3/VMWare	iap07ap	6	32	180	1.8.0_221	Oracle Linux 7.9
DR	CUSIOP Hub database	Database	T5-2/LDOM	idb01ap	32	48	24,500		Solaris 11.4 (Sparc)

5.1. Target Environment

The target environment will consist of the following:



5.1.1. Operational Responsibility –

During and after the migration, the Vendor will provide all support operations necessary to operate and maintain the CUSIOP system in the OCI environment.

The Vendor will provide management and administrative staff to oversee the migration and subsequent operation of the CUSIOP system

HCTRA will provide any infrastructure needs in order for CUSIOP to interface with HCTRA's network or other required internal systems.

HCTRA will facilitate any support needed from other CUSIOP member agencies during the migration and testing of the environments on OCI.

The Vendor shall provide system security, monitoring, disaster recovery, and backups

Patching and system upgrades will be provided by The Vendor

Any changes to the OCI Cloud infrastructure will be at the request/approval of HCTRA. Any additional funding associated with said change will be pass-through cost with no mark-up.

5.1.2. Software Licensing –

The Vendor will provide licensing for the CUSIOP system in the OCI cloud environment including system virtualization software (), Operating System, database, application server and reporting software

The vendor shall ensure the system is on supported versions of operating system, database, application server and report server software.

The vendor will work with HCTRA to plan and schedule major upgrades to the infrastructure.

5.2. Operational Constraints

Outside of scheduled maintenance activities, the CUSIOP database, applications and interfaces are available 24 hours a day, 7 days a week, 365 days a year. Currently 7 agencies utilize the system to share customer information and process tolls with each other. The agencies depend on the system for revenue purposes, therefore it is critical that the migration be done in a methodical, systematic way to protect its integrity and maintain its availability.

Any breach of the Performance Measures below will be assessed Liquidated Damages as defined in Job No. 100116 MSA, as amended and BEATS, as amended.

#	Performance Requirement Category	Performance Requirement	Expected Measure
1	Availability	The CUSIOP_Hub_OCI availability shall be at least (X) % excluding any scheduled periods of preventative maintenance. Availability shall be calculated on an annual basis for each of the three components as follows: 100%- (Number of Hours System component is Not Available / Total Hours Observed for component) Observed Hours is the total hours within the annual observance period excluding any periods of scheduled preventative maintenance.	99.00%
2	Availability	The CUSIOP_Hub_OCI File Transfer Protocol (FTP) or Equivalent Services availability shall be at least (X) % excluding any scheduled periods of preventative	99.00%
3	Directory Access	Standard Directory Listing Command NOTE: Directory listings are generally invoked as part of the scripting process used to transfer files via FTP. These commands are generally a representation of the system hardware, file storage input/output (I/O), and/or network response and not of the database performance or software application.	120 seconds or less
4	Web Application Response	Web Application Response NOTE: Application response is measured from the time that a user invokes action on a web page to the time when the page is fully loaded with the result and is ready for another action.	10 seconds or less;
5	Infrastructure Sizing	The CUSIOP_Hub_OCI must have sufficient processing speed and supporting infrastructure to load and process (catch-up) a (X) day backlog of files/transactions during a single 24-hour period.	3 days
6	Report Generation	Summary Data Reports shall return data for monthly period (approximately 30 days) within two minutes; NOTE: Report performance is heavily dependent on the number of rows being returned. While the database would be tuned to return the data quickly, the rendering of the data in the appropriate client such as PDF, CSV, etc. is a function of the user's workstation and could longer than expected.	2 minutes
7	Report Generation	Detail Data Reports shall return data for monthly period (approximately 30 days) within ten minutes; NOTE: Report performance is heavily dependent on the number of rows being returned. While the database would be tuned to return the data quickly, the rendering of the data in the appropriate client such as PDF, CSV, etc. is a function of the user's workstation and could longer than expected.	10 minutes

6. Objectives

The overall objective is to implement the migration of workloads and applications to the cloud, including the provision of the cloud service environment necessary, supported by comprehensive cloud migration transition and support services. To achieve this, these cloud migration services must meet applicable business, technical, security, management, and administrative objectives.

6.1. Business Objectives

- 6.1.1. Provide all operations support necessary to fully migrate and deploy the CUSIOP database and application to OCI cloud.
- 6.1.2. Provide maximum alignment to CUSIOP requirements, amplifying *HCTRA's* ability to achieve management objectives.
- 6.1.3. Provide cloud migration services that accommodate considerations from an enterprise perspective including impact on *CUSIOP* business units, contracts, management, and technical components *including application, databases, infrastructure, and security*
- 6.1.4. Provide cloud hosting services within continental United States geographic location for the target applications and services.
- 6.1.5. Provide communication to all affected parties of the to ensure end-user adoption, customer satisfaction, successful organizational process changes, and alignment with CUSIOP policies, requirements, and goals.

6.2. Technical Objectives

- 6.2.1. Provide all technical advisory services necessary to fully migrate the CUSIOP target applications and services to OCI cloud.
- 6.2.2. Provide cloud environments for production, disaster recovery, test, development, and User Acceptance Testing to support the complete systems lifecycle.
- 6.2.3. Provide post-deployment cloud support services.
- 6.2.4. Provide open-standards based technologies whenever possible to provide interoperability. Specific standards that should/must be utilized include:
 - Open Virtualization Format (OVF) – applicable only to IaaS virtual machines
 - Cloud Data Management Interface (CDMI)
 - Open Cloud Computing Interface (OCCI)
 - API and OCI CLI for Oracle data management
 - Oracle Cloud interface with Open Nebula
- 6.2.5. Provide additional resources for bandwidth, storage, software licenses, etc. as required supporting the migration with higher thresholds than the amount normally planned for operations.
- 6.2.6. Provide migration status including milestones and support or implement specified migration testing plans and related rollback capabilities.
- 6.2.7. Provide backup, recovery and disaster recovery procedures and processes in the cloud environment for the target applications and services that support the following objectives:

Recovery Point Objective (RPO) – Ability to recover files for any specific day within a rolling three (3) month period.

Recovery Time Objective (RTO) – Ability to recover files within four (4) hours of request.

Data Backup Location – Data backups maintained or replicated at a site geographically disparate from the production site such that the loss of one data center does not prohibit recovery of data within the prescribed RTO.

6.2.8. Provide support for data storage tiers as specified within the target applications and services.

6.2.9. Provide complete support for IPv6 within the cloud environments provided.

6.3. Security Objectives

6.3.1. Provide a security plan focused on the integration points of end-user authentication (e.g. LDAP), cloud environment management authentication (PIV card), and physical and logical security and certification delivering a single comprehensive solution that can be leveraged across the organization reducing end user confusion and security management complexity.

6.3.2. Provide a trusted secure communication channel for cloud environment management to support the HCTRA's desire for multi factor authentication of remote access.

6.3.3. Provide security for non-standard data transfers both in transit and at rest resulting from the migration of the applications or services to the cloud.

6.3.4. Provide support for specified auditable events related to the applications or services.

6.3.5. List any additional Security and Privacy standards to which the contractor should conform their service/solution. For example:

Properly securing the connections between formerly co-located systems, including systems not migrated for business or other reasons.

Implementation of Trusted Internet Connections and similar mandates.

6.4. Management Objectives

6.4.1. Allow the contractor maximum flexibility to innovatively manage program cost, schedule, performance, risks, warranties, contracts and subcontracts, vendors, and data required to deliver effective migration services.

6.4.2. Maintain clear government visibility into program cost, schedule, technical performance, and risk, including periodic reporting.

6.4.3. Provide meaningful reporting and analytics that provide the [Agency/Department] with up-to-date and comprehensive information regarding technical and management performance.

6.4.4. Provide a brief description on the management of subcontractor relationships and contracts. Outline the roles and responsibilities per party involved in the service and where key responsibilities reside.

6.4.5. Provide a transition plan detailing milestones, activities, and timelines for the migration services.

- 6.4.6. Provide a vendor management plan including risk analysis, evaluation, communication, performance, auditing, and dispute resolution.

6.5. Administrative Objectives

- 6.5.1. Provide end-to-end monitoring capability and reporting for service level agreement (SLA) requirements and metrics.
- 6.5.2. Provide configuration management information for cloud virtual environment that will integrate with HCTRA's configuration management system.
- 6.5.3. Provide archived and deleted record data retention consistent with HCTRA's data retention policy.

7. Hardware and Databases Maintenance Services

The Vendor will perform preventive, predictive, corrective, and emergency maintenance service on the cloud infrastructure and databases comprising the CUSIOP. The Vendor understands the mission critical nature of the CUSIOP systems and will use commercially reasonable efforts to meet or exceed availability and reliability metrics that are consistent with the historical baselines that have been established since the implementation of the CUSIOP in 2017.

The Vendor will provide on a quarterly basis, preventative, predictive and routine maintenance on the hardware, database and operating system as required in conjunction with any quarterly OS and database maintenance releases for bug fixes and patches. Archive, backup, restore and purge procedures, in addition to database reorganization, tuning, index rebuild and optimization, are also performed on as needed basis. The Vendor will maintain the cloud infrastructure, Network, Database, and maintain Security as follows:

7.1. Cloud Services and Tenancy Services

- 7.1.1. Provision and maintain development, test, UAT, Integration and Production/DR Environments
- 7.1.2. Maintain Cloud System VMS, Services & Configurations within the cloud vendor tenancy working closely with the CUSIOP Software team on the design and changes of same.
- 7.1.3. Apply Patches and Performance Improvements on a scheduled basis across all environments.
- 7.1.4. Perform System Backup of Production and DR with weekly full backups and daily incremental backups with a four-week retention period
- 7.1.5. Backup non-prod environments on a weekly basis with a four-week retention period
- 7.1.6. Provide a DR site at another Cloud Region that is an exact mirror of Production matching the current RTO and RPO. Provide and maintain a DR runbook describing how to switchover to DR. DR switchover will be practiced yearly using the snapshot standby method using the current plan as the basis.
- 7.1.7. Maintain reasonably complete system documentation and diagrams.

7.2.Security

7.2.1. Perform Critical Security Updates as published for systems used in CUSIOP environments.

7.2.2. Provide Modern End Point Protection (with overwatch) for servers.

7.2.3. Configure and Manage Firewall/Perimeter, IDS/IPS services and send logs to a SIEM.

7.2.4. Conduct vulnerability management across all environments to include scanning and remediation.

7.2.5. Perform regular penetration testing on the network and application that is public facing.

7.2.6. Setup and configure access using remote terminal services or workspaces that utilize two-factor authentication.

7.2.7. Setup Security Policy per ETC Central Support current policies and procedures and execute regular security cadence.

7.2.8. Ensure password complexity and length meet or exceed current recommendations. Ensure password aging and reset rules match or exceed current recommendations.

7.3.Network

7.3.1. Configure WAN, LAN, VPNs, SFTP, and other connectivity to ensure CUSIOP function.

7.3.2. Manage routing, load balancers, WAF, and DNS.

7.3.3. Manage network connectivity within cloud tenancies.

7.3.4. Work with cloud vendor to ensure relevant patches are applied across network infrastructure.

7.3.5. Work with Agencies to configure, maintain, and monitor traffic across system.

7.4.Database

7.4.1. Database Security

- Ensure servers are current with Operating System and Oracle patches and security updates.
- Perform regular vulnerability scans and remediation of same.
- Document the various security procedures in place to provide system security. This shall include user audit, access control, and role management. Schedule regular audits. Provide access to this audit document only to authorized personnel.
- Ensure system is backed up and DR plans are current and understood.

7.4.2. Configuration Management

Provision databases for development, test, UAT, Integration, and Production/DR.

All databases shall be on the same version unless patching is occurring.

Maintain maintenance plans for efficient upgrades and maintenance. Implement the plan and update it regularly.

Non prod databases shall be cloned from production as business needs require.

ORDER OF COMMISSIONERS COURT
Authorizing Amendment to Agreement With
Electronic Transaction Consultants Corporation

The Commissioners Court of Harris County, Texas, met in regular session at its regular term at the Harris County Administration Building in the City of Houston, Texas, on _____, 2022 with all members present except _____.

A quorum was present. Among other business, the following was transacted:

ORDER AUTHORIZING FOURTH AMENDMENT TO AGREEMENT
WITH ELECTRONIC TRANSACTION CONSULTANTS CORPORATION TO
ADD ADDITIONAL SCOPE TO MIGRATE CUSIOP TO THE ORACLE CLOUD
INFRASTRUCTURE AND ADD RENEWAL OPTIONS

Commissioner _____ introduced an order and moved that Commissioners Court adopt the order. Commissioner _____ seconded the motion for adoption of the order. The motion, carrying with it the adoption of the order, prevailed by the following vote:

	Yes	No	Abstain
Judge Lina Hidalgo	△	△	△
Comm. Rodney Ellis	△	△	△
Comm. Adrian Garcia	△	△	△
Comm. Tom Ramsey	△	△	△
Comm. R. Jack Cagle	△	△	△

The County Judge thereupon announced that the motion had duly and lawfully carried and that the order had been duly and lawfully adopted. The order adopted follows:

IT IS ORDERED that:

1. The Harris County Judge is authorized to execute on behalf of Harris County the Fourth Amendment to the Agreement with Electronic Transaction Consultants Corporation to add additional scope for the migration of Central US Interoperability (CUSIOP) databases, hardware, applications and services to the Oracle Cloud Infrastructure (OCI)), modify payment schedule of On-Demand Training, Staffing and Support to be utilized on an as needed basis to support HCTRA and supplement training and triage of customer issues and and Nineteen Million and No/Dollars (\$19,000,000.00) in appropriated funds to cover the additional services; the Fourth Amendment is incorporated herein as though fully set forth word for word.

2. All Harris County officials and employees are authorized to do any and all things necessary or convenient to accomplish the purposes of this order.