DD/A Registry

76-6024

NPIC/D-378-76

DD/S&T# 5-161-76

MEMORANDUM FOR: Deputy Director for Administration

THROUGH : Director of Data Processing

SUBJECT : FEDSIM Proposal for UNIVAC 1110 Computer Performance Evaluation

REFERENCES : 1. FEDSIM Transmittal and Customer Agreement (Proposal), 21 October 1976
2. Memorandum for the Record, 4 November 1976

1. The attached Federal Computer Performance Evaluation and Simulation Center (FEDSIM) customer agreement (proposal) is for a computer performance evaluation of the Univac 1110 computer system used in the NPIC Data System (NDS). The period of performance under this proposal is from 7 February 1977 through 15 August 1977. The funding required to execute this contract is $60,415. Fees are paid through a transfer of funds to the GSA ADP fund.

2. CSD/PSG/NPIC has no specific budget item for FEDSIM. However, part of the FY 77 budget for Univac Enhancement contracts was to include a performance evaluation task. Since FEDSIM is the Federal authority for computer performance evaluation, it is to our benefit to have them perform the evaluation. It is intended that a portion of the funds budgeted for Univac contractor service in FY 77, but not yet obligated, be used to fund this FEDSIM proposal.

3. NPIC requests the DDA to contract with FEDSIM as set forth in the attached customer agreement. Instructions for accomplishing this are contained in paragraph 2 of the attached letter of transmittal. NPIC further requests that Mr. [   ] NPIC ADP Control Officer, STATINTL be named contract monitor for this contract, and that all reports, memos, etc. be directed to him.

STATINTL

JOHN J. HICKS
Director
National Photographic Interpretation Center

USAF review(s) completed.

SUBJECT: FEDSIM Proposal for UNIVAC 1110 Computer Performance Evaluation

Attachments:
1. FEDSIM Transmittal and Customer Agreement.
2. Memorandum for the Record

STATINTL

CONCUR: _____

Acting Director of Data Processing

1 9 NOV 1976

Date

DEPARTMENT OF THE AIR FORCE
FEDERAL COMPUTER PERFORMANCE EVALUATION AND SIMULATION CENTER (AFDAA)
WASHINGTON, D.C.   20330

2 1 OCT 1976

REPLY TO
ATTN. OF   FEDSIM/ AY

SUBJECT   Transmittal of Preliminary Project Plan/Customer Agreement
(FEDSIM Project No. AY-086-078-CIA)

TO   Central Intelligence Agency
STATINTL ATTN: [   ]
Washington, DC 20505

1.   The Federal Computer Performance Evaluation and Simulation
Center (FEDSIM) is pleased to submit the attached Preliminary
Project Plan/Customer Agreement for your consideration.   The
plan has been prepared based on discussions with Messrs Tom
STATINTL [   ] on 11 August and 15 October 1976.   It
is intended for use only within the Central Intelligence
Agency.   The FEDSIM support outlined in the plan may no longer
be permissible if the plan is released to a commercial firm.

2.   The plan has been prepared in a manner which will permit
conversion to a Customer Agreement if the objectives and
terms of the plan are satisfactory.   If you desire to convert
the plan to a Customer Agreement, please indicate the
reimbursement method, insert a billing address and the
appropriate accounting classification, sign, and return the
original to Department of the Air Force, FEDSIM/SU (ATTN:
Ms Bailey), Washington, DC 20330.

3.   If you have any questions regarding the plan or its
conversion to a Customer Agreement, please contact Mr
Elliott Erickson, telephone number (202) 274-8461.

DONALD R. DEESE, Director
Directorate of Analysis

1 Atch
Preliminary Project Plan/
Customer Agreement No.
AY-086-078-CIA (2 cys)

FEDERAL COMPUTER PERFORMANCE EVALUATION
AND SIMULATION CENTER (FEDSIM)
PRELIMINARY PROJECT PLAN/CUSTOMER AGREEMENT

PROJECT CODE: AY-086-078-CIA   DATE
PROJECT TITLE: CIA UNIVAC 1100 CPE   20 October 1976

This project plan outlines approaches to the issues presented
to FEDSIM by the Central Intelligence Agency (hereafter also
referred to as the CIA or "the customer"). The document
states the objectives, the work to be performed, and the
items to be delivered. It estimates time and cost, and also
specifies the support required from the CIA if the project
is to be completed on time and at anticipated cost. The
document is intended to be a preliminary text from which a
final agreement will be constructed. When signed by both
parties, this plan becomes an agreement.

BACKGROUND

The CIA operates a UNIVAC 1142 computer system supporting a
large number of remote terminals. The 300-500 remote termi-
nals are controlled through three communications/symbiont
processors (C/SP). The 1142 system operates under the
UNIVAC 1100 operating system at revision level 33R1. The
CIA is presently rewriting numerous application programs
which are currently in production on a UNIVAC 494 system.
The programs are being written to interface through the
Transaction Interface Package (TIP) and the Data Management
System, DMS 1100. After completion of the program rewrites,
the UNIVAC 1142 is expected to process the production work-
load and on-line queries and updates. The program rewriting
is now in its final stages, but the CIA is already experi-
encing poor response time, even before going to a production
mode. The response time problems are of concern to the CIA,
whose systems analysts feel that the existing configuration
should be adequate if hardware and software inefficiencies
are eliminated. The system is scheduled to go into produc-
tion and service the 300-500 remote terminals in January
1977. For these reasons, the CIA has asked FEDSIM to perform
a computer performance evaluation of the UNIVAC 1142 system.

PROJECT OBJECTIVE

The objective of this project is to provide quantitative
data to the CIA identifying the bottlenecks of their UNIVAC
1142 computer system and to improve the performance of the
system by tuning it to the CIA environment and workload.

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STATEMENT OF WORK

Task 1 - Project Development

The project development task consists of three closely related phases:

a. Environment Identification. FEDSIM will collect appropriate information as necessary to identify the environment of the UNIVAC 1142 computer system at the CIA. The information collected will describe the characteristics and interactions of the system hardware, operating system software, and user programs. In addition, information will be collected describing workload characteristics, operations procedures and constraints, and scheduling parameters and constraints. FEDSIM will use the data collected in this phase to develop a specific measurement strategy for the UNIVAC 1142 computer system at the CIA.

b. Software Instrumentation Package (SIP) Validation. SIP is a UNIVAC-supplied software monitor. In past experience with SIP, FEDSIM has determined that SIP is a useful and reliable CPE tool. This past experience, however, has also shown that the implementation of SIP and the SIP data reduction programs varies between UNIVAC sites, thereby generating site unique problems with some of the SIP reports. For this reason, a validation of SIP output at the CIA will be performed. This validation will be performed on all SIP data to be used in subsequent tasks. The validation effort will consist of several steps:

(1) The SIP data will be examined for accuracy by cross-checking within numerous SIP reports and with SIP data from other systems.

(2) Appropriate areas of SIP-produced data will be compared with system accounting data. Since CIA does not have a system accounting data reduction package, FEDSIM plans to provide any system accounting data reduction packages used in this project.

(3) The operating system code will be analyzed where necessary. This analysis will enable FEDSIM to determine the validity of any suspect SIP data.

(4) In the event any suspect SIP data cannot be validated with the previous steps, a hardware monitor will be used to collect data in parallel with SIP. These data

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will then be compared with similar SIP data. This initial
validation of SIP data will enable FEDSIM to gather suffi-
cient reliable performance data during the remainder of the
project without using an expensive hardware monitor.

   c. Specific Strategy Development. Based on information
gathered in the previous phases, FEDSIM will define and
document a specific measurement strategy to be used during
measurement of the CIA UNIVAC 1142. The specific SIP and
software parameters required, the operational procedures,
and the data reduction software required will be identified
during this strategy definition phase.

Task 2 - Computer Measurement

Phase 1. General System Profile Data Collection

FEDSIM will perform a general measurement study of the CIA
UNIVAC 1142 using SIP. All levels of SIP will be used (user
levels, development levels, I/O trace, and DA trace). The
data collected will be used to identify the utilization and
bottlenecks of the CIA UNIVAC 1142 system. Data will also
be collected to quantify the remote terminal user's response
time.

Phase 2. Evaluate, Tune, and Remeasure

FEDSIM will document the major bottlenecks discovered in
Phase 1. This information will be forwarded to the CIA in
a Project Memorandum. This Project Memorandum will also
contain proposed changes to improve the performance of the
UNIVAC 1142 system. Proposed changes typically pertain to:
(1) file location; (2) device location or speed; (3) job
scheduling; (4) EXEC SYSGEN or software parameter changes;
(5) operating procedures; and/or (6) hardware changes.

If the proposed changes can be implemented with minimal
delay, a second, limited data collection phase will be
conducted. These data will be used to quantify the improve-
ments of the system tuning changes.

Phase 3. Detailed Performance Studies

In addition to identifying the major bottlenecks of the
system, the computer measurement of Task 2 will indicate

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specific problem areas pertaining to the unique CIA computing
requirements and applications. The priority and order of
the evaluations listed below will be jointly defined by the
CIA and FEDSIM after identification in Phases 1 and 2. The
time estimates and funding associated with these evaluations
will then be determined and funded through an amendment to
this Customer Agreement. Each evaluation will be either
accepted or rejected for further analysis on an individual
basis. It may be decided to perform any of these evaluations
subsequent to the completion of Task 3.

     a. Evaluate the TIP/DMS 1100 Applications. The CIA is
using TIP and DMS 1100 to control the major applications
running on their UNIVAC 1142. These control routines are
marketed by UNIVAC as general purpose communications and
data base access packages. The purpose of this evaluation
is to evaluate TIP and DMS 1100 to determine what can be
done either to tailor these packages to the CIA environment
or to provide guidelines for better usage of these systems by
application programs.

     b. Evaluate the Communications Hardware and Software.
The large number of terminals and the three communications/
symbiont processors are the prime source of work for the
UNIVAC 1142 at the CIA. The purpose of this evaluation is
to identify the utilization and bottlenecks of the communi-
cations/symbiont processors at the CIA and to tune these
systems to the CIA environment.

     c. Evaluate the Split System. The CIA is currently
attempting to process some of its work with the UNIVAC 1142
system split into two unit processor configurations. In
this mode of operation, the peripherals and memory are
divided among two unit processor configurations to permit
testing and debugging by systems and applications programmers.
The purpose of this evaluation is to identify the utiliza-
tion and bottlenecks of both unit processor configurations
in this split system mode of operation.

     d. Evaluate the Overall Data Base Design. The CIA has
a large, complicated data base residing on the UNIVAC 1142
mass storage subsystems. Information is indexed and related
in a variety of ways in order to try to minimize response
times. The purpose of this evaluation is to determine if the
overall data base design is satisfying its original purpose
efficiently and effectively.

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e. Evaluate OS-1100 as Generated at CIA. The purpose of this evaluation is to analyze the software parameters comprising the system generation of OS-1100 on the CIA UNIVAC 1142 and determine optimum settings for parameters in order to improve the performance of the system.

Task 3 - Data Analysis/Report Preparation

FEDSIM will analyze the data collected in previous tasks and prepare the Final Report described below.

ITEMS TO BE DELIVERED

1. Final Report. FEDSIM will prepare a Final Report for the CIA which will summarize the methods used, the data collected, and the conclusions and recommendations which were derived from the analysis.

2. Project Memorandum. FEDSIM will prepare a brief Project Memorandum identifying the major bottlenecks to the UNIVAC 1142 as discovered in Task 2, Phase 2. The Project Memorandum will also contain proposed system tuning changes to be implemented for reevaluation in a subsequent phase of Task 2.

3. Monthly Progress Report. A Monthly Progress Report will be provided by FEDSIM to the CIA. These reports will be provided by the 15th of each month following the period being reported and will include: (1) summary of progress during the previous month; (2) technical or management problems encountered or anticipated; (3) summary of important meetings and/or conferences; (4) estimated cost incurred to date versus budgeted cost; and (5) documents submitted for CIA approval during the reporting period.

TIME SCHEDULE

The planned time schedule of this project is as follows:

Date	Duration	Function
7 Feb 1977	4 weeks	Task 1 - Project Development/ Environment Identification

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Date	Duration	Function
7 Mar 1977	4 weeks*	Task 1 - Project Development/ SIP Validation
4 Apr 1977*	2 weeks	Task 1 - Project Development/ Specific Strategy Development
18 Apr 1977*	3 weeks	Task 2 - Computer Measurement/ Phase 1 - General System Profile
9 May 1977*	6 weeks	Task 2 - Computer Measurement/ Phase 2 - Evaluate, Tune, and Remeasure
(Dates to be determined in Phase 2)		Task 2 - Computer Measurement/ Phase 3 - Detailed Performance Studies
20 Jun 1977*	8 weeks	Task 3 - Data Analysis/Final Report Preparation

*Add 3 weeks if a hardware monitor is required.

The Final Report will be delivered within 60 days after the completion of Task 3.

PROJECT PERSONNEL

Project Officer: Mr. Elliott Erickson

Alternate: Mr. Lane Parsons

Telephone: (202) 274-8461

Mailing Address: Department of the Air Force
                   FEDSIM/AY
                   Washington, DC 20330

Other potential FEDSIM personnel who may be used as appropriate include:

            Captain John Kelly
            Mr. Larry DeVille

SECURITY CLEARANCE

Mr. Elliott Erickson   TOP SECRET
Mr. Lane Parsons   TOP SECRET
Captain John Kelly   TOP SECRET
Mr. Larry DeVille   TOP SECRET

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When security clearances beyond TOP SECRET are required, FEDSIM requires that the customer make arrangements for acquiring them. FEDSIM will ensure that project personnel will quickly and fully complete all forms necessary for additional security clearances.

CUSTOMER SUPPORT

In general, FEDSIM cannot accomplish its tasks without the cooperation and support of its customers. It is important that customer personnel be advised that they should cooperate and lend assistance to FEDSIM personnel. The successful implementation of any computer performance evaluation or system simulation project depends upon the agency involved having an understanding of the technical issues and tools applied. FEDSIM encourages the customer to view each project as a training experience, and to assign staff members to work with FEDSIM personnel to develop some in-house capability in the use, interpretation, or application of the technical tools and/or techniques employed during the project.

    a. The CIA will provide a project officer to act as coordinator and to be responsible for resolving any operational problems that may arise during the course of the project. In addition, the CIA will make available appropriate personnel on a limited basis for the purpose of responding to questions or requests for workload and program information.

    b. If the use of a hardware monitor is required, the CIA will make appropriate arrangements to provide computer time for the execution of the data reduction software that produces reports from the hardware monitor data. These data reduction programs run as batch jobs and can be processed in a multiprogrammed environment.

    c. The CIA will authorize FEDSIM personnel access to the computer room on occasions required by the project.

    d. The CIA will authorize FEDSIM personnel access to UNIVAC hardware logic diagrams and operating system listings as required by FEDSIM to verify measurement test points and software logic which have previously been developed or as required to develop new measurement test points.

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e.   The CIA will insure installation of the hardware field change orders (FCO) required to permit connection of hardware monitor probes.

f.   In the event a hardware monitor is used, the CIA will provide Field Engineering (FE) support to connect and disconnect the hardware monitor from the UNIVAC 1142 computer system and associated peripherals or acknowledge that experienced FEDSIM personnel are authorized to connect and disconnect the hardware monitor.

g.   The CIA will authorize FEDSIM personnel access to data from the UNIVAC-provided Software Instrumentation Package, any system accounting routines, and other support software installed at the CIA.

h.   In the event system tests are required to verify operating characteristics and/or data, the CIA will provide limited amounts of dedicated system time. The extent and scheduling of dedicated system time will be mutually agreed upon when the requirements are identified.

i.   If appropriate, the CIA will provide FEDSIM with a written copy of its Rules of Conduct and information on safeguards it has established governing the activities of its personnel relevant to protection of privacy and data security in accordance with the Privacy Act of 1974.

FUNDING

The Air Force operates FEDSIM as Executive Agent for the General Services Administration. FEDSIM provides computer systems simulation and performance evaluation services throughout the Federal Government. FEDSIM derives its financing from the GSA ADP Fund, under the authority of PL 89-306, the Brooks Bill.   FEDSIM records and reports project costs to the customer and to GSA. GSA bills the customer either as services are received or in advance, as specified in the Customer Agreement.

The customer may select the reimbursement, the full advance, or the partial advance method of payment. The methods are explained below:

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a. Reimbursement

If the services are to be performed on a reimburs-
able basis, FEDSIM submits a monthly billing request to the
GSA Office of Finance (through the GSA Automated Data and
Telecommunications Service, Financial Management Division).
The billing request is computed by the method and at the
rates detailed in the ESTIMATED COST section of this agree-
ment. The accounts receivable branch of the GSA Office of
Finance bills the customer. Ultimately, customer payments
replenish the GSA ADP Fund.

b. Advances

If the customer desires to advance all or a portion
of the estimated cost of the project, GSA will bill the
customer for the desired amount of the advance after receipt
from FEDSIM of a signed agreement which specifies this
method of payment. GSA records the advance with the ADP
Fund as deferred income. FEDSIM reports to GSA each month
the incurred project expenses. GSA reduces the amount of
the advance by a corresponding amount. To keep the customer
advised of the remaining balance of the advance, FEDSIM
provides the customer a courtesy copy of the monthly expense
report, which FEDSIM has provided to GSA. If the customer
does not increase the amount of the advance by an agreement
amendment, GSA is authorized to bill (i.e., not to exceed
total estimated project cost) any project expenses that
exceed the amount of the partial advance on a monthly reim-
bursable basis, as explained in para a. above.

Specify the method of payment by checking the appropriate
box. If the selected method is a full or partial advance,
insert the amount. If a partial advance is specified, the
advanced funds will be used first; additional reimbursements,
up to the estimated total project cost, will be made monthly
upon billing from GSA.

/___/ The customer agrees to reimburse GSA on a monthly
      basis as services are received from FEDSIM.

/___/ The method of payment will be by an advance of funds
      equal to the total estimated project cost. $_____
      is due and payable to the GSA ADP Fund upon written
      acceptance of this agreement and receipt from GSA
      of a request for payment.

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/X/ The method of payment will be by an advance of funds
     equal to a portion of the total estimated project
     cost. A partial advance of $30,415.00   is due and
     payable to the GSA ADP Fund upon written acceptance
     of this agreement and receipt by the customer of a
     bill from GSA for payment. Within the limit of the
     total estimated project cost agreed upon, the customer
     agrees to reimburse GSA monthly for any expenses in
     excess of the partial advance.

The billing address for this project is:

All services performed under this agreement will be charged
to the following accounting classification(s):

This agreement must be amended before expenses in excess of
those estimated can be incurred. When project costs reach
75% of the estimated cost, FEDSIM will conduct a cost review
to determine whether the project can be completed without
exceeding the estimate. If the project will exceed the
estimate, FEDSIM will advise the customer that an amendment
is necessary to increase the total estimated cost of the
project or that the scope of the project must be modified.
No costs above 100% of the estimate will be incurred by
FEDSIM without an amended agreement.

When authorized by the customer, expenses incurred in
support of the project before the execution of this agree-
ment are billable to the project. Unless there is a written
exception to the contrary, the customer's written acceptance
of this agreement also constitutes acceptance of this
condition.

ESTIMATED COST

All task efforts will be performed on a time and materials
basis. Direct time devoted to this project will be recorded
by FEDSIM personnel each day. Accumulated direct time will
be billed monthly at those approved rates in effect at the
time the hours are worked. All other project-identifiable,

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material expense (e.g., computer time, hardware and/or
software lease, contractor support, direct travel, and
direct material) will be billed at actual cost or, if appli-
cable, at approved standard rates. Direct costs will be
recovered for reports having unusual duplicating, graphic,
reduction, or layout requirements, e.g., reproduction costs
for customer reports in excess of five copies. Those
project-related support items that require FEDSIM to procure
products or services specifically for the customer will, in
addition, be subject to an administrative charge. When
FEDSIM-owned hardware or software is used, it will be billed
at the standard charges in effect at the time of use.
Accounting records pertaining to the project may be made
available for customer review.

Task 1 - Project Development

Man-hours (800)	$ 21,600
Hardware monitor	1,005
Local travel	240
Total Task 1	$ 22,845

Task 2 - Computer Measurement

Phase 1 - General System Profile

Man-hours (240)	6,480

Phase 2 - Evaluate, Tune, & Remeasure

Man-hours (480)	12,960

Phase 3 - Detailed Performance Studies

(Cost to be determined in Phase 2 and
forwarded in an amendment to this
agreement.)

Local travel	750
Total Phase 1 & 2 of Task 2	$ 20,190

Task 3 - Data Analysis/Report Preparation

Man-hours (640)	$ 17,280
Local travel	100
Total Task 3	$ 17,380

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The total estimated cost for this project excluding Task 2,
Phase 3 is $60,415.*

*Totals include the cost of a hardware monitor.

RESTRICTIONS/CONFIDENTIALITY OF DATA

All data tapes, cards, listings, and similar materials
provided by the CIA will be returned when the final project
report is delivered. FEDSIM will retain only the summary
data associated with the project. FEDSIM may not distribute
project reports to anyone other than the CIA.

All reports will be UNCLASSIFIED to the extent possible.
When other classification is required, classified volumes or
annexes will be used to minimize the production of classi-
fied materials. FEDSIM personnnel will not remove any classified
material from the CIA. The CIA will provide a secure storage
facility for FEDSIM working papers, tapes, etc.

If an unsolicited proposal in any way related to this
project or to the tasks included in it has been received
from a commercial firm, a separate determination of the
propriety of FEDSIM participation must be made and must be
attached to this agreement before it is valid.

PROTECTION OF PRIVACY AND DATA SECURITY

FEDSIM personnel will follow the rules established by the
customer governing the activities of its personnel with
respect to data confidentiality and security. Except in
cases of conflict, FEDSIM personnel will also follow the
Rules of Conduct and safeguards program established by
FEDSIM for personnel involved in the design, development,
operation, analysis, or maintenance of equipment, systems,
or services used to store or process systems of records.
These Rules of Conduct and procedures are available for
customer review.

RENEGOTIATIONS

The delivery dates and charges contained in this agreement
are based upon provision of the material items and personnel
called for in the CUSTOMER SUPPORT section, and upon the

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accomplishment of the tasks specified in the STATEMENT OF
WORK. If the CIA is unable to provide these items of
support or if the STATEMENT OF WORK is modified, FEDSIM
retains the right to reopen negotiations for changes in
delivery dates and cost estimates. FEDSIM may require that
all follow-on agreements be negotiated 30 days in advance of
the approved starting date. FEDSIM will submit a separate
Project Plan for follow-on agreement negotiations.

CANCELLATION

Should it be necessary for the customer to cancel this
Agreement, either in its entirety or in part, the customer
agrees to reimburse FEDSIM for any costs that FEDSIM may
have incurred that are directly attributable to the Agree-
ment (e.g., an unexpired, fixed-term hardware or software
lease or a fixed-term contractor services contract).

Furthermore, the customer agrees to give FEDSIM at least two
weeks' notice of cancellation so that alternate employment
can be provided for analysts committed to the customer's
project. FEDSIM management will make every effort to reduce
reimbursement charges incurred after a notice of cancella-
tion is received. Such notification must be received in
writing before FEDSIM management will take action to dis-
continue support to an active customer project.

EXPIRATION DATE

This Project Plan expires on 1 December 1976. If an agree-
ment based on this plan has not been signed and dated by all
required signatories by that time, the Project Plan is
subject to revision or withdrawal.

FOLLOW-UP

To enable its management and staff to judge the quality and
value of its services, FEDSIM will conduct a qualitative
project follow-up interview 30 days after the completion of
the project. This interview is intended to assess the
extent to which FEDSIM has satisfied the requirements of the
project at all customer levels. Subsequent interviews may
be conducted, with the agreement of the customer, to quantify
the benefits of the project.

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APPROVED

FOR THE FEDERAL COMPUTER
PERFORMANCE EVALUATION AND   FOR THE
      SIMULATION CENTER   CENTRAL INTELLIGENCE AGENCY

_____   _____
DONALD R. DEESE
Director
Directorate of Analysis
Date: _____   Date: _____

_____   _____
RICHARD A. LEJK, Colonel, USAF
Commander
Date: _____   Date: _____

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PSG/CSD-497/76
5 November 1976

MEMORANDUM FOR THE RECORD

SUBJECT   : Acceptance of FEDSIM Proposal for UNIVAC 1100 Computer
                    Performance Evaluation

REFERENCES   : a. Attached FEDSIM Proposal
                    b. CIA/Office of Logistics, Guidelines for the Preparation
                        Specification, Selection and Acquisition of ADP
                        Systems dated June 1975.

1. The attached transmittal from the Federal Computer Performance
Evaluation and Simulation Center (FEDSIM) is a proposal to have FEDSIM
do a computer performance evaluation of the Univac 1110 computer system
used in the NPIC Data System (NDS). The period of performance under
this proposal is from 7 February 1977 through 15 August 1977. There are
options contained within the proposal to extend the period of performance
by adding additional tasks to the contract. The funding required to
execute this contract would be $60,415 spread evenly over the period of
performance. Fees are paid through a transfer of funds to the GSA ADP
fund. It is recommended that this proposal be accepted and that FEDSIM
be contracted to perform the work as specified within this proposal.
The specific recommendation is contained in paragraph 6.

2. FEDSIM:

FEDSIM was established by the General Services Administration to
provide computer performance evaluation services to agencies of the
Federal Government. At GSA request, FEDSIM is operated by the Air
Force. FEDSIM was established as a direct result of PL 89-306, the
Brooks Bill, which is a Federal Law regulating the procurement and
administration of all Federal ADP equipment. FEDSIM provides a central
source for computer performance evaluation and simulation services so
that individual agencies will not need to develop independent capa-
bilities to use advanced techniques of computer performance measurement
and evaluation. FEDSIM policies are established by a Joint Policy
Committee made up of representatives of GSA, the Air Force, the Office
of the Secretary of Defense, and the National Bureau of Standards. To
meet its objectives, FEDSIM is comprised of technical personnel having a
broad range of experience with performance evaluation and simulation
tools and techniques, and communications and computer-based systems.

SUBJECT: NDS Evaluation of Proposal by FEDSIM

FEDSIM is the accepted authority within the Federal Government for the evaluation of Univac 1100 systems. Other Agencies using FEDSIM, such as MILPERCEN and Defense Mapping Agency, have documented substantial performance benefits as a result of their evaluation.

3. Approach:

The detailed approach to the performance evaluation of the NDS Univac 1110 is contained in the attached proposal. In the proposal, FEDSIM refers to the NDS Univac 1110 as a Univac 1142 system. This is a Univac designation to indicate that the NDS Univac 1110 has MOS memory (recently installed on the NDS). Generally the steps are:

    a. Project Development - FEDSIM learns the nature of the NDS hardware and software environment and develops specific techniques for measuring the computer performance.

    b. Computer Measurement - Through a series of well proven and experienced approaches, FEDSIM takes careful measurement of Univac 1110 hardware and software performance indicators which are critical to overall system performance.

    c. Recommendations - After detailed analysis of the measured data, FEDSIM recommends a priority list of changes to the system and the benefits which should be experienced. FEDSIM will advise us on the urgency of each change and will monitor the results of changes which can be made in a reasonable time frame. Very little time will be required of individual programmers working on NDS Phase I development. Most of the measurement and evaluation will take place without disrupting NDS programmers and users.

4. Funding:

This proposal is strictly for a time and materials contract. FEDSIM records and reports all project costs to us and to GSA. Funds are paid to FEDSIM from the GSA ADP Fund. The Agency may transfer funds to the GSA ADP Fund in advance of billing by FEDSIM, or on a bill received basis, or on a combination of the two methods. Specific reimbursement methods are detailed in the proposal. The method of reimbursement must be specified at time of contract. We are recommending two payment transfer of half the cost estimate.

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SUBJECT: NDS Evaluation of Proposal by FEDSIM

CSD/PSG/NPIC has no specific budget item for FEDSIM. However, part of the FY 77 budget for Univac enhancement contracts was to include a performance evaluation task. Since FEDSIM is the Federal authority for computer performance evaluation, it is to our benefit to have them perform the evaluation. It is recommended that a portion of the funds allocated for Univac contractor service in FY 77, but not yet obligated be used to fund this FEDSIM proposal.

5. Legal Authority:

FEDSIM was established by GSA to comply with the terms of the Brooks Bill regulating the procurement and administration of Federal ADP systems. It is incumbent on each Agency which operates ADP facilities to verify effective usage of such equipment. The referenced CIA/Office of Logistics guideline specifics:

> With regard to the use of hardware and/or software monitors, the Federal Computer Performance Evaluation and Simulation Center (FEDSIM), operated by the Department of the Air Force under a delegation of authority from GSA, is authorized to aid Federal agencies in the use of these and other tools which measure the utilization of components within an ADP system.

> FEDSIM has considerable expertise in this area and Federal agencies are encouraged to use the FEDSIM as the single point of contact with industry concerning the installation of attachment of ADPE hardware and/or software monitors.

In discussions with OL/ADP&E and with ODP they have encouraged us to utilize FEDSIM.

6. Recommendation:

The specific recommendations are:

    a. The Agency contracts with FEDSIM as proposed in the attached transmittal.

    b. Funds totaling $60,415 be transferred to the GSA ADP Fund in the following increments:

        1 Feb 1977 $30,415
        1 Aug 1977 $30,000

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SUBJECT: NDS Evaluation of Proposal by FEDSIM

     c. That the contract be reviewed in May/June 1977 for possible changes in scope identified in the attached proposal. If the changes in scope are approved, the contract would be modified and additional funds, subject to availability, trans-ferred for this purpose.

STATINTL

Chief, Computer Services Division, PSG

Attachment: a/s