

Statement of Work for the STTR on Metrics Correlation and Analysis Service

Tech-X Corp. plans to collaborate with the Fermi National Accelerator Laboratory (FNAL) to develop a framework to visualize the status of distributed large Peta-flops computing facilities. The framework targets the application and system users and operators at these facilities and aims at facilitating trend spotting, incident investigation, and trouble shooting.

The framework will provide tools and components to adapt, retrieve, correlate, and aggregate information from disparate sources owned by different organizations, facilities and middleware tools. Furthermore, we will provide web-based components and tools to help visualize side-by-side aggregated information of various types. We will develop reusable components based on widely adopted technologies such as web portal and enterprise service bus, for the two main thrusts of the project, i.e., data presentation and data aggregation and analysis.

The FNAL team will build on their existing work (1) improving the workflow analysis engine and warehouse service, (2) identifying relevant data sources available on the Grid, (3) extending the data analysis components for the project. TechX will provide (1) a more flexible and extensible front-end, including the development of visualization gadgets, (2) consult on the data analytics.

As a subcontractor of TechX, FNAL will receive enough funds to hire an undergraduate student for the summer and cover the necessary supervision from Gabriele Garzoglio, a senior developer of the Grid Facilities Department of the Computing Division. The estimated budget includes standard fringe benefits, Vacations, OPTO.

DOE F 4620.1
(04-93)
All Other Editions Are Obsolete

**U.S. Department of Energy
Budget Page**
(See reverse for Instructions)
Total 9 Months Funding Proposal

OMB Control No.
1910-1400
OMB Burden Disclosure
Statement on Reverse

DOE ASCR

6/15/11 thru 3/15/12

DE-FOA-0000413 - Framework for Metrics Correlation and Analysis Service

ORGANIZATION FERMILAB Computing Division				Budget Page No: <u>1</u>	
PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR Dr. Gabriele Garzoglio				Requested Duration: <u>9</u> (Months)	
A. SENIOR PERSONNEL: P/VPD, Co-PI's, Faculty and Other Senior Associates (List each separately with title; A.6. show number in brackets)				DOE Funded Person-mos.	
				Funds Requested	
				Funds Granted	
				by Applicant	
				by DOE	
1.	Dr. Gabriele Garzoglio	Computer Science Researcher	0.16		\$1,378
2.					
3.					
4.					
5.					
6.	() OTHERS (LIST INDIVIDUALLY ON BUDGET EXPLANATION PAGE)				
7.	(1) TOTAL SENIOR PERSONNEL (1-6)		0.16		\$1,378
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)					
1.	() POST DOCTORAL ASSOCIATES				
2.	() OTHER PROFESSIONAL (TECHNICIAN, PROGRAMMER, ETC.)				
3.	() GRADUATE STUDENTS				
4.	(1) UNDERGRADUATE STUDENTS		2.20		\$9,588
5.	() SECRETARIAL - CLERICAL				
6.	() OTHER				
TOTAL SALARIES AND WAGES (A+B)					\$10,966
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS) Fringe +Vacation + Opto					
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A+B+C)					\$17,211
D. PERMANENT EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM.)					
TOTAL PERMANENT EQUIPMENT					
E. TRAVEL					
1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS)					
2. FOREIGN					
TOTAL TRAVEL					
F. TRAINEE/PARTICIPANT COSTS					
1. STIPENDS (Itemize levels, types + totals on budget justification page)					
2. TUITION & FEES					
3. TRAINEE TRAVEL					
4. OTHER (fully explain on justification page)					
TOTAL PARTICIPANTS ()				TOTAL COST	
G. OTHER DIRECT COSTS					
1. MATERIALS AND SUPPLIES					\$1,000
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION					
3. CONSULTANT SERVICES					
4. COMPUTER (ADPE) SERVICES					
5. SUBCONTRACTS					
6. OTHER					
TOTAL OTHER DIRECT COSTS					\$1,000
TOTAL DIRECT COSTS (A THROUGH G)					\$18,211
I. INDIRECT COSTS (SPECIFY RATE AND BASE)					
10.0% on Travel expense and 14.4% on all other M&S expense; 67.44% on SWF					
TOTAL INDIRECT COSTS					\$11,751
TOTAL DIRECT AND INDIRECT COSTS (H+I)					\$29,961
K. AMOUNT OF ANY REQUIRED COST SHARING FROM NON-FEDERAL SOURCES					
TOTAL COST OF PROJECT (J+K)					\$29,961

DE-FOA-0000413 – Framework for Metrics Correlation and Analysis Service

BUDGET JUSTIFICATION

Fermi Research Alliance, LLC (FRA) / Fermi National Accelerator Laboratory

Fermi Research Alliance, LLC (FRA) / Fermilab will be providing approximately 2.4 FTE of effort towards the SBIR portion of the proposed project titled “DE-FOA-0000413 – Framework for Metrics Correlation and Analysis Service”. The compensation is consistent with similar work both within and outside of Fermilab. The grant is a Small Business Innovation Research (SBIR) Phase I in collaboration with TechX Corporation. Fermilab is the recipient of 30% of the total budget of \$100,000.

A. SENIOR PERSONNEL. Proposed compensation is consistent with that paid to other personnel engaged in similar work both within and outside Fermilab.

Dr. Gabriele Garzoglio will be the senior researcher responsible for portion of the project subcontracted to Fermilab. He will be actively coordinating the effort of integrating the backend components of the Metrics Correlation and Analysis Service (MCAS), responsibility of Fermilab, with the visualization components, responsibility of TechX. As a senior software developer, he is also responsible for supervising the development of data analysis backend components for MCAS. Dr. Gabriele Garzoglio will participate in the evaluation of this Phase I feasibility study.

B. OTHER PERSONNEL

Fermilab will hire an undergraduate student through the summer to develop the data analysis software for the MCAS backend and participate in the integration of the system components from Fermilab and TechX.

C. FRINGE BENEFITS

Benefits are requested at the rate of 56.94% of professional salaries. This includes vacation accrual rate (11%), OPTO (7%), and Fringe Benefits rate (33%)

D. PERMANENT EQUIPMENT

None

E. TRAVEL AND SUBSISTENCE.

None

G. OTHER DIRECT COSTS

Expenditures of \$1,000 for computer, materials, and supplies are requested to support the project.

I. TOTAL INDIRECT COSTS

Fermi Research Alliance, LLC (FRA) / Fermilab FY2011 provisional indirect cost rate is currently 67.44% (Salaries), 10.0% (Travel), and 14.4% (Other M&S) of MTDC, in accordance with Fermilab's contract with the Fermi Research Alliance, LLC (FRA) and the Department of Energy.