Summary

Call for Nomination

PROVISION OF SERVICES FOR THE DESIGN AND IMPLEMENTATION OF A PROTOTYPE OF THE CODAC ARCHIVING SYSTEM

BACKGROUND

CODAC is the integrated and distributed Control, Data Access and Communication system responsible for operating the ITER device. One of the main tasks of CODAC is to provide a temporary archiving system for all the data produced by the ITER Plant Systems during operation. This archiving system shall be able to keep data for roughly 10 days. There will be data produced during a pulse which is foreseen to last at most 3,600 seconds and data produced between two pulses. It is foreseen to have around 2,000 test pulses per year and 1TB per pulse. Data rate during a pulse will vary from one plant system to another one and can go up to 5-20GB/sec. The throughput of the raw data which must be archived on demand (usually to get more details about an event) is up to 50 GB/sec with a typical duration of the order of 10 seconds.

The purpose of the requested support is to assist the CODAC group in designing and implementing a prototype of the temporary archiving system which fulfills current requirements.

SCOPE OF WORK

The scope of work covers the supply of suitable qualified and experienced personnel to contribute to the design and implementation of the CODAC archiving system. The services requested herein can be categorized as follow:

- Analysis of the current CODAC architecture (hardware and software)
- Design a prototype for the CODAC archiving system which fulfill our requirements
- Building the prototype
- Test (incl. endurance and stress tests) and integration of the prototype with the rest of CODAC system.
- Consultancy in scientific archiving area

N.B : ITER will not provide any hardware and will not accept any hardware delivery.

EXPERIENCE

The potential tenderers should have proven experience in the following areas:

- Experience in large scientific archiving system and control systems.
- Experience in HDF5 and EPICS
- Experience in parallel computing
- Experience in mass storage systems.
- Experience in Linux operating system
- Experience in high-speed network
- Experience in databases (Postgresql, Oracle, MS SQL).
- Experience in software quality assurance; life cycle, documentation, configuration control, versioning, automatic system building, automatic regression testing, code inspection etc.
- Experience in participating to a large software project involving research labs such.
- Knowledge of Plasma or High Energy Physics systems such as diagnostics, RF, Vacuum, Power supplies.
- Complete command (oral, writing, reading) of English.

DURATION

The framework contract duration shall be 2 (two) years; ITER Organization shall establish the request for services on ad hoc basis and relative to the respective annual work plans.

TIMETABLE

The tentative timetable is as follows:

Call for Nomination	April 2011
Call for Tender	May 2011
Tender submission	June 2011
Contract award	July 2011
Start of Contract	November 2011

Candidature

Participation is open to all legal persons participating either individually or in a grouping (consortium) which is established in an ITER Member State. A legal person cannot participate individually or as a consortium partner in more than one application or tender. A consortium may be a permanent, legally-established grouping or a grouping, which has been constituted informally for a specific tender procedure. All members of a consortium (i.e. the leader and all other members) are jointly and severally liable to the ITER Organization. The consortium cannot be modified later without the approval of the ITER Organization.

Legal entities belonging to the same legal grouping are allowed to participate separately if they are able to demonstrate independent technical and financial capacities. Bidders' (individual or consortium) must comply with the selection criteria. IO reserves the right to disregard duplicated references and may exclude such legal entities form the tender procedure.

Further information on the ITER Organization procurement can be found at:

HTTP://WWW.ITER.ORG/ORG/TEAM/ADM/PROC/PAGES/WELCOME.ASPX