

**INVITATION TO TENDER**  
**(For Open Tenders Only-Non-Transferable)**

**PART I**

GRAMS: ANURAG  
PHONE: 24347630/31/32/33  
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No.ANU/MMG/ CAP/2007-08/ PRN/01  
ADVANCED NUMERICAL RESEARCH  
& ANALYSIS GROUP

Government of India  
Ministry of Defence  
Defence R&D Organization  
P.O. Kanchanbagh  
HYDERABAD – 500 058.  
August, 2007

Tender Ref No : No.ANU/MMG/ CAP/2007-08/ PRN/01

**Due Date: 11/09/2007**

**Due Time : 10.00 hrs**

**Opening Date: 11/09/2007**

**Opening Time : 10.30 hrs**



1. The Supplies/services noted at Schedule of Requirements in Techno-Commercial Bid (Part III) are required. Please find the following enclosed in this invitation :

- |  |          |
|--|----------|
| 1. Invitation to Tender (Part – I)       | Page 1   |
| 2. Tender (Part-II)                      | Page 2   |
| 3. Techno-Commercial Bid (Part-III)      | Page 3-4 |
| 4. General Terms & Conditions ( Part-IV) | Page 5-7 |
| 5. Price Bid (Part-V)                    | Page 8-9 |

You are requested to return Part II, Part III and Part IV duly completed in one envelope, and marked as Techno-Commercial Bid, and Part V duly completed and marked as Price Bid in another envelope. The Two envelopes are to be marked with our tender reference No., due date and due time on each envelope with your stamp as sender along with date of despatch. The two envelopes may be put in a good envelope securely fastened, sealed and distinctly marked “TENDER FOR SUPPLY” and addressed only to Director, ANURAG, KANCHANBAGH P.O., HYDERABAD – 500 058. Tender enquiry reference, due date of opening and name of the vendor must be marked boldly on the envelope. In case of regret letter, mark ‘REGRET’ boldly on the envelope. Tender should be sent by Registered Post or to be dropped in the Tender Box kept at Reception.

**Non-Compliance of the above may disqualify your offer for consideration.**

Date :

**Note: Each tender duly completed must be sent**

**Yours sincerely,**

With a demand Draft of **Rs.2,00,000-00 (Rupees Two Lakh Only)**

in favour of

Director, ANURAG as earnest

Money Deposit(EMD). Tenders without

EMD will not be considered.(In this regard please refer

Our tender notice terms & conditions Page No.2&S.No.5)

For Director

For & on behalf of the President of India

**Security Deposit :** Successful bidder has to deposit  
10% of Order value towards security deposit.

## TENDER

### PART II

Tender reference No.ANU/MMG/ CAP/2007-08/ PRN/01

**To**

The President of India  
Through Director, ANURAG, Hyderabad – 500 058.

I/We agree to furnish required supplies/services as detailed in the Techno-Commercial Bid (Part IV) or such portions thereof as you may specify in the Acceptance of Tender/Supply Order at the prices given in the Price Bid (Part V) in accordance with the General Terms and Conditions (Part III) governing the contract/supply order enclosed hereto duly accepted on receipt of order for the same.

I/We agree to hold this offer open until \_\_\_\_\_ and shall be bound to supply/commission/erect the equipment and despatch the same within the specified period.

I/We agree to supply and commission/erect the equipment and complete the whole of the work and hand over to the purchaser within the period of \_\_\_\_\_ weeks, from the date of receipt of an intimation from you regarding acceptance of this tender/receipt of supply order.

Station:  
Date:

( )  
Signature of Tenderer  
With Office Stamp  
Name & Address:

Station:  
Date:

( )  
Signature Witness:  
Name & Address:



## COMMERCIAL

1. The normal payment terms are 90% within 30 days after receipt, acceptance and satisfactory installation of stores/equipment in good condition or the date of receipt of the bill whichever is later. The 10% payment will be released after warranty/guarantee period. This can also be released on furnishing the bank guarantee for equivalent amount valid for the duration of such warranty/guarantee, wherever applicable.
2. Give details of installation and commissioning except price which will be only in price bid (if applicable).
3. Warranty/guarantee required is for one year unless otherwise specified. Indicate warranty/guarantee duration offered.
4. Delivery desired is within 12-16 weeks unless otherwise specified. Specify your delivery period.
5. In case of delayed supplies, liquidated damages at the rate of 0.5 percent per week to a maximum of 5% will be levied.
6. This Organisation is exempted from payment of octroi, payment of customs duty under notification No. 51/96 and as amended by 24/2002, dt.03/04/02 and excise duty under notification No. 10/97 Central Excise, dated 1.3.1997. However, prices should be quoted indicating clearly Customs/Excise duties. If agreed, the necessary exemption certificate may be provided. This exemption is for the final product only.
7. Delivery: Free delivery at ANURAG, Hyderabad, unless otherwise specified.
8. Mode of Dispatch: By Road for indigenous stores and by Air for foreign stores, unless otherwise specified.
9. Please note clearly that faxed quotation is liable to be rejected.
10. The Contractor is liable to submit the Security Deposit upto 10% of order value, before release of order in the event of acceptance of his tender, if applicable.

Note : Please cross the conditions not required and add any required for this enquiry.

(Signature of Tender issuing authority)

for Director

For & On Behalf of the President of India

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Tender Reference No.	:	<u>No.ANU/MMG/ CAP/2007-08/ PRN/01</u>
Fax No.	:	
Full Address of Tenderer	:	
Station	:	
Signature of Tenderer	:	
Name in Block Letters	:	
Date	:	
Office Stamp	:	

**GENERAL TERMS AND CONDITIONS FOR TENDER**  
**PART IV**

1. Preparation of Tender:
  - (i) The complete tender form (pages 2-9) should be returned intact whether you are quoting for an item or not. Pages should not be detached but when items are not being tendered for the corresponding space should be defaced by mentioning 'not quoting'.
  - (ii) In the event of space on the tender form being insufficient for the required purpose additional pages may be added. Each such additional page must be numbered consecutively should bear the tender reference number and be fully signed by you (the supplier). In such cases reference to the additional pages must be made in the tender form.
  - (iii) If any modification of the tender form is considered necessary, you (supplier) should communicate the same by means of a separate letter sent with the tender.
  
2. Signing of Tender:
  - (a) The tender is liable to be ignored if complete information is not given therein regarding the particulars, data, specifications asked for in the techno-commercial offer (Part III) at Schedule of requirements, Specific attention must be paid to the delivery dates, technical specification, and also the general conditions of contract at Part IV and other conditions mentioned at Part III and Part V.
  - (b) Individual signing the tender or other documents connected with a contract must specify whether he signs as :
    - (i) A 'sole proprietor' of the firm or constituted attorney of such sole proprietor.
    - (ii) A partner of the firm if it be a partnership, in which case he must have authority to refer to arbitration disputes concerning the business of the partnership either by virtue of the partnership agreement or a power of attorney.
    - (iii) Constituted attorney of the firm if it is a Company.

NB :

- a. In case of (ii) above a copy of the partnership agreement or a general power of attorney and in either case attested by a Notary Public, should be furnished to this Office, or an affidavit or stamped paper of all the partners admitting execution of the partnership agreement or the general power of attorney, should be furnished.
- b. In case of partnership firms, where no authority to refer disputes concerning the business of the partnership has been conferred on any partner, every partner of the firm must sign the tender and all other related documents.
- c. A person signing the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrant that he has authority to bind such other and if, on inquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies cancel the contract and hold the signatory liable for all costs and damages.
- d. The tenderer should sign each page of the tender form and annexures, if any.

3. **Delivery of Tender:** The Original copy of the tender form (Pages 2-9) is to be enclosed in two separate envelopes, the first envelope containing Part II, III and IV and marked as “Techno-Commercial Bid” and another envelope containing only Part V marked as “Price Bid”. The two envelopes should be sealed and should bear address of this office, tender reference no, due date and time. The two envelopes should be put in one envelope which shall have only the address of the office as indicated in Part I. Right is reserved to ignore any tender who fails to comply with the above instructions.
4. **Latest Hour for Receipt of Tender:** Unless otherwise specified in the Invitation to tender (Part I), your tender must reach this office not later than 1700 hrs on the due date of the tender. Tenders sent by hand should be put in the Tender Box at this office not later than 1700 hrs on the due date unless otherwise mentioned.
5. **Period for which the offer will remain open:**
  - (i) Firms tendering should note the period for which it is desired that their offers should remain open for acceptance. If the day upto which the offer is to remain open being declared closed holiday for Govt. offices, the offer shall remain open for acceptance till the next working day.
  - (ii) Quotations qualified by such vague and indefinite expressions such as ‘Subject to immediate acceptance’, ‘Subject to prior sale’ will not be considered.
6. **Opening of Tenders :** The firm shall be at liberty to be present to authorize a representative to be present at the opening of the tender at the time and date as specified in the schedule. The name and address of the representative who would be attending the opening of the tender on behalf of the firm should be indicated in the tender. Please also state the name and address of firm’s permanent representative, if any. Generally the techno-commercial offer will be opened on the day specified for opening.
7. **Right of Acceptance :** This office does not pledge itself and reserves to itself the right of accepting the whole or any part of the tender or portion of the quantity offered and the firm shall supply the same at the rate quoted. The firm shall be at liberty to tender for the whole or any portion or to state in the tender that the rate quoted shall apply only if the entire quantity is taken from the firm.
8. **Communication of Acceptance :** Acceptance of tender by the purchase will be communicated by a telegram, express letter of acceptance/fax or a formal letter of ‘Acceptance of Tender’. In cases where acceptance is communicated by telegram or cases where acceptance is communicated by a fax or Express letter, the formal Acceptance of Tender will be forwarded to the firm as soon as possible but the instructions contained in the telegram/telex/fax or Express letter should be acted upon immediately.
9. **Items supplied are subject to inspection and acceptance and the supplier should collect/replace the rejected items at his cost and risk.**
10. **Delayed Suppliers:** In case of delayed suppliers, liquidated damages at the rate of 0.5 percent per week of delay with a maximum of 5 percent will be levied.

11. Registration : Registration is mandatory. If the tendering firm is not registered with this Lab/Estt. Of any other DRDO Lab/estt, they are required to seek registration. For details please write to Director of (Lab/Estt). Vendors must complete registration formalities to become eligible for placing supply order and future enquiries.
12. Registration number allotted by this Laboratory or nay other DRDO Lab/Estt or proof of registration with another Govt. Dept., if any to be mentioned on the quotation.
13. No correspondence/ discussions/visits what so ever will be entertained on the subject unless specifically called by this office after opening the tenders for technical discussions/price negotiations. Any violation of this will render the quotations invalid and the firm is liable to be blacklisted.
14. Director reserves the right to call for techno-commercial/price negotiations. The company should depute competent representative for such discussion/negotiations whenever called for and he shall be competent to take on the spot decisions.
15. Drawings/specifications sent along with this letter should be returned along with the firm's quotation or regret letter.
16. The firm may give any of their commercial term, if required in their techno-commercial offer only, and price quotations should contain only price.
17. SECURITY: Any information/material/document supplied in connection with this enquiry/likely order is classified and should not be disclosed/copied to jeo paradise security of state.
18. Please inform the Director in writing whether the owner of the firm or any of their partners/employees has close relations working with the any DRDO Lab/Estt. This is for record only.
19. Office stamps of tenderers must be affixed below their signatures.

(Signature of Tender Issuing Authority)  
for Director  
For & On Behalf of President of India

Tender Reference No.	: <u>No.ANU/MMG/ CAP/2007-08/ PRN/01</u>
Full Address of Tenderer	:
Fax No.	:
Telephone No.	:
Signature of Tenderer	:
Name in Block Letters	:
Office Stamp	:
Station	:

**PRICE BID****PART V**

1. Tender reference No.ANU/MMG/ CAP/2007-08/ PRN/01
2. Name of tenderer :
3. **Due Date: 11/09/2007** **Due Time : 10.00 hrs**  
**Opening Date & Time 11/09/2007** **Opening Time: 10.30 hrs**
4. The tender shall remain valid for acceptance for 90 days, from the date of tender opening.
5. Rates for items given in Techno-commercial offer at Schedule of Requirements are as follows. Adhering to the Format given below is a Pre-requisite for considering your quotations:

Sl.No.	Description	A/U	Qty offered	Unit Price	Total Cost
(i)	Brief description of Eqpt/Item/Material with Material with all accessories (basic price)				
(ii)	Packing & Forwarding charges (if any)				
(iii)	Excise Duty, if any				
(iv)	Custom Duty, if any				
(v)	CST against Form 'D'/APGST against Form 'N'				
(vi)	Total Ex-factory/Godown cost (in figures & words)				
(vii)	Freight upto ANURAG				
(viii)	Transit Insurance (where required)				
(ix)	Total delivery cost at ANURAG (in figures & words)				
(x)	Installation & Commissioning cost, if any				
(xi)	Warranty duration and cost (if any)				
(xii)	Total cost (in figures & words)				
(xiii)	Any other information				

6. Separate list should be attached where required in the same format giving details of each item and cost. However, total cost to be mentioned at Sl.No.6 (xii) above.

**OTHER CONDITIONS FOR PRICE BIDS**

1. No unilateral revision in price will be admissible.
2. Rates should only be quoted in the accounting unit(A/U)mentioned in this enquiry. Rates must be quoted clearly on free delivery basis at **ANURAG Hyderabad**, unless otherwise specified and also to be indicated in words.
3. In case any of the subheads are included in the total cost, the same should be specified. Any exemption of duties/taxes required should be indicated.
4. Any optional indicated in techno-commercial bids must be priced separately.

**(Part V Contd.)**

5. (a) In case spares/accessories are applicable, their list and price should be clearly indicated separately.
- (b) In case equipment offered required maintenance after the expiry of the warranty, please indicate approximate cost of comprehensive and on call basis maintenance and also availability of local support or otherwise.
6. Price :
- (i) The prices quoted must be net per unit shown in the schedule and must include all packing and delivery charges. Refunds on account of returnable packages (if any) are to be separately specified. Prices and refunds must be clearly shown in figures and words in Indian currency.
- (ii) The price must be stated for each item separately. The percentage of reduction, in the total price for the entire demand should also be quoted; should an order to that extent be placed with you.
- (iii) If excise duty or any other extra charges are applicable, the same must be specifically stated. In the absence of any such stipulation, it will be presumed that the prices include all such charges and no claim for the same will be entertained.
- (iv) The price quoted in the tenders should be exclusive of sales tax (and should be clearly stated to be so) which will be paid by the purchaser, if legally leviable at the rate ruling on the date of supply as specified in the Acceptance of Tender.
7. Packing: Unless a method of packing is indicated in the specification or in the Schedule of packing which the contractor proposed to employ must be described in the Schedule of Tender form Contractors are at liberty to quote for additional alternative sizes and description of packs and these must be described in the Schedule to Tender.
8. Any other

(Signature of Tender Issuing Authority)  
For Director  
For & On Behalf of President of India

Tender Reference : No.ANU/MMG/ CAP/2007-08/ PRN/01

Full Address of Tenderer :

Fax No. :

Telephone No. :

Signature of Tenderer :

Name in Block Letters :

Office Stamp :

Station :

Date :

**Specifications for supply of source code of RTLinuxPro hard real time RTOS and application development environment, for porting on Abacus and Anupama processors:**

ANURAG has developed two 32-bit Microprocessors, Anupama and Abacus mainly targeted for embedded real-time applications. Anupama is a MMU less processor while Abacus has on chip Memory Management Unit (MMU). Salient architectural features of these processors are provided in Annexure 'A'. ANURAG developed some hardware platforms based on these processors for demonstration and application development purpose. Linux kernel port based on Version 2.4.07 for Abacus processor is developed and available. GCC 2.95.3 based 'C' cross compiler toolkit is available for these processors both on linux and Windows operating system platforms. The list of currently available software tools for these processors is enclosed in Annexure 'B'. It is required to supply latest version of RTLinux Pro RTOS source code developed and marketed by M/s Wind River Systems, Inc., USA, with required permissions and licenses to port this source code on Abacus and Anupama Processor based hardware platforms and unlimited license to use in applications. The specifications for supply of this source code are as follows:

1. Source Code of latest version of RTLinuxPro hard real time RTOS along with the source code of RTLinuxPro application development tool kit available in the market supporting all PowerPC Processor series, consisting of,
  - i. RTCore hard realtime OS
  - ii. Ruggedised Linux OS
  - iii. Windriver Process Space Development Domain (PSDD)
  - iv. Windriver Real Time Networking (LNET)
  - v. VxIT (VxWorks Migration Tool)

The scope of source code supply mentioned here encompasses all the components (whether explicitly mentioned here or not) needed to develop latest version of RTLinux Pro port and full fledged RTLinux Pro application development kit for both Abacus and Anupama processors as available in the commercial market from M/s Wind River Systems Inc., USA,.

2. Vendor should provide details of all source code components being supplied, media type, language of implementation, compiler, tools, utilities, libraries and other dependencies, if any, with their version numbers, required to port it on Abacus processor based platform, documentation provided, media type, in technical bid to be submitted to ANURAG.

### 3. Licensing:

- i. M/s Wind River Systems should provide written permission to ANURAG for porting RTLinuxPro source code procured on Anupama and Abacus Processors
- ii. The source code of RTLinuxPro ported on Abacus and Anupama Processors shall be owned by ANURAG
- iii. ANURAG shall have unlimited right to port this source code to any application hardware based on Anupama and Abacus processors
- iv. ANURAG shall have unlimited right to generate the development and run-time licenses of RTLinux Pro as and when its users require to develop applications based on Anupama and Abacus based boards
- v. The details of licensing should be incorporated in to Software License Agreement (SLA) that should be provided by M/s Wind River Systems, Inc., USA.

### 4. Training

Comprehensive training at ANURAG covering porting issues, design, usage and source code maintenance of all software deliverables

### 5. Support and Warranty

One year comprehensive warranty and support from the date of acceptance by ANURAG, for fixing bugs and errors in software deliverables

### 6. Acceptance criteria:

Supplied source code and tools should be compiled at ANURAG for a standard PowerPC target board and demonstrated for complete functionality as in a commercial RTLinux Pro RTOS distribution for that board. Selection of PowerPC board for demonstration should be done in consultation with ANURAG.

### 7. Vendor Profile:

Vendor should be an authorized distributor of M/s Wind River Systems, Inc., USA, for RTLinux Pro RTOS in India. Vendor should produce a letter from M/s Wind River Systems, Inc., USA to this effect. Vendor should also produce a formal letter from M/s Wind River Systems, Inc., USA, accepting their willingness to supply the items mentioned and authorizing the vendor to quote for this particular enquiry.

Abacus Processor:

The salient specifications of Abacus are summarized below. The detailed electrical specifications and other relevant design information can be had from processor manual.

Data width	:	32 bits
Address width	:	32 bits
Clock frequency	:	200 MHz
Interrupts	:	Seven auto-vectored, 1 NMI
Peripherals	:	Two programmable 16 bit timers, One 32-bit programmable parallel I/O port, Two programmable serial I/O ports, SDR SDRAM controller
MMUs	:	Concurrent Instruction and Data MMUs 64-Entry Address Translation Cache (ATC) Cacheable page tables with hardware Table-Walk
Cache	:	16 KB level 1 instruction cache 16 KB level 1 data cache 1 MB level 2 instruction cache 1 MB level 2 data cache
FPU	:	32-bit (Single Precision, IEEE 754 compatible) 64-bit (Double precision, IEEE 754 compatible)
Registers	:	45 general purpose registers (32-bit) 19 special purpose registers (32-bit) 64 DPFPU registers (32-bit)

## **Anupama Processor:**

The salient specifications of Anupama are summarized below. The detailed electrical specifications and other relevant design information can be had from processor manual.

Data width	:	32 bits
Address width	:	32 bits
Clock frequency	:	25 MHz
Interrupts	:	Seven auto-vectored, 1 NMI
Peripherals	:	Two programmable 16 bit timers One 32-bit programmable parallel I/O port, Two programmable serial I/O ports
Cache	:	1 KB Instruction Cache 1 KB Data Cache
FPU	:	32-bit (Single Precision, IEEE 754 compatible)
Registers	:	47 general purpose registers (32-bit) 17 special purpose registers (32-bit)

The cross development tools for both CPU's Abacus and Anupama are available in Linux and Windows environments.

Software currently available for Abacus processor:

1. Cross development tools based on GNU GCC,
  - a. Compiler suite - 2.95.3
  - b. Binutils – 2.10.1
  - c. Libraries
    - i. GNU glibc-2.2.5 (static and shared)
    - ii. uClibc-0.9.26 (static)
2. Linux Kernel – 2.4.07 with bash-2.05a and minimal utilities on Abacus workstation
3. RTLinux-3.2pre open source patch ported for the above kernel

Software currently available for Anupama processor:

1. Cross development tools based on GNU GCC,
  - a. Compiler suite - 2.95.3
  - b. Binutils – 2.10.1