Centre for Development of Telematics

C-DOT Campus, Mehrauli New Delhi – 110030,
Electronics City, Hosur Road, Bengaluru-560010

Reputed Private / Public Sector Units with relevant experience are invited to submit their Interest for Licensing/Transfer of Technology (ToT) including design know-how and object/source code from C-DOT for 4G/5G NSA Core and IMS (IP multimedia system) or individual modules thereof.

Eligibility Criteria

In order to take the License of the technology for the offered product, the proposer shall fulfil the following criteria.

S. No.	Pre-Qualification Criteria
1.	The proposer should be a company incorporated in India under companies Act 1956/2013/partnership firm/LLP registered with the Registrar of Firms / Registrar of Companies (as applicable in accordance with the laws of India), operating in India for at least last 5 years. The company should have prevalent presence in IT/ITES/Telecom business.
2.	The proposer must have positive net worth for last three consecutive financial years.
3.	a. The proposer opting for complete package of 4G/5G-NSA and IMS Core with source code should have an average annual turnover of at least INR 5000 Crore for the last 3 years as per the certified standalone/consolidated financial statements. b. The proposer opting for complete solution of 4G/5G-NSA and IMS Core without Source Code should have an average annual turnover of at least INR 1000 Crores for the last 3 years as per the certified standalone/consolidated financial statements. c. The proposer opting for individual modules of 4G/5G-NSA and IMS Core without Source Code should have an average annual turnover of at least INR 100 Crores for the last 3 years as per the certified standalone/consolidated financial statements. **DETAILS OF THE 4G/5G & IMS CORE PACKAGE AND INDIVIDUAL MODULES ARE ATTACHED AS ANNEXURE 1**
4.	The proposer should be having a valid GST registration.
5.	The proposer should not have been blacklisted / barred from business by any of the Central / State Government and its departments / PSUs / autonomous organizations for any time during the last 3 years from the date of application.

It is requested to direct all communications and queries (by email) related to this offer, to the following only:

Head ToT
Email: totcdot@cdot.in

Proposer may communicate its willingness to take TOT by filling the information in Annexure 2.

Annexure 1

DETAILS OF THE 4G/5G NSA & IMS CORE PACKAGE AND INDIVIDUAL MODULES

A	**4G/5G NSA Core/IMS as package (All 70 modules)**		With source code
B	**4G/5G NSA Core/IMS as package (All 70 modules)**		Without source code
C	**Individual modules (A total of 36 modules of 4G/5G NSA Core)**		
S.No	**Nodes**	**Description**	Without source code
1.	MME	Mobility Management Entity handles the mobility of an end user.	
2.	SGWCP	Serving Gateway Control Plane which provides data connectivity to the end user.	
3.	PGWCP	Packet Data Network Gateway Control Plane which provides the user connectivity to a Packet Data Network (PDN).	
4.	PCRF	Policy and Charging Rule Function defines the quality of service and charging mechanism applicable to an end user's connectivity.	
5.	PCRF-DLB	PCRF Diameter Load Balancer is responsible for selecting the appropriate PCRF during diameter query	
6.	HSS	Home Subscriber Server which contains profile of 2G/3G/4G subscribers.	
7.	HSS_DLB	HSS Diameter Load Balancer is responsible for selecting the appropriate HSS during diameter query	
8.	HSS_LB	HSS Load Balancer is responsible for selecting the appropriate HSS during subscriber provisioning from B&CCS. It selects HSS based on the PLMN for which subscribers are to be created.	
9.	DRA	Diameter Routing Agent interconnects all core network nodes having Diameter protocol interfaces.	
10.	DSC	Diameter Session Controller is the node used to connect the DIAMETER interfaces of internal nodes to external nodes	
11.	USPS	Unified Subscriber Provisioning System is used to provision subscribers' data in HSS, ENUM, SPR and SLF.	
12.	ENUM	ENUM Server is used by core network nodes for resolving names of and selecting other nodes internally within the core network.	

13.	RDNS	Remote Domain Name server is used by core network nodes for resolving names of external network elements.	
14.	EPCEMS	Element Management System manages Fault, Configuration and Performance of the 4G / 5G NSA core nodes.	
15.	IPLOGGER	IPLOG Management System receives logs from various nodes in the network and generates IP Data Records (IPDR) which captures details of IP data sessions.	
16.	LICCMS	LTE IMS Converged Core Management System is EMS for Container Nodes and Switch Fabric	
17.	BKPRST	Backup and Restoration function is responsible for taking incremental backups of all types of data existing in the core.	
18.	STS	Subscriber Tracing System	
19.	SPR	Subscriber Profile Repository contains the policies and rules applicable for each subscriber.	
20.	CPMS-GUI	Charging & Policy Management System – Graphical User Interface for Charging, DPI & Security Policy Data Provisioning	
21.	SCEF	Service Capability Exposure Function exposes the core network facilities offered by the core network for NB-IoT applications.	
22.	CDF_DLB	CDF Diameter Load Balancer is responsible for selecting the appropriate CDF during diameter query	
23.	CDF	Charging Data Function generates Call Data Records (CDR) for each user session	
24.	TRAFFICREP	Traffic reports Function helps generating the traffic reports based on CDRs and user inputs	
25.	RLMS	Reports and Logs management system provides interface to query and display of various types of reports	
26.	SGW-DP	Serving Gateway Data Plane which provides data connectivity to the end user.	
27.	PGW-DP	Packet Data Network Gateway Data Plane which provides the user connectivity to a Packet Data Network (PDN).	
28.	DPI	Deep Packet Inspection function identifies a user's traffic based on layer4 to layer7 protocol attributes	
29.	CGNAT	Carrier Grade Network Address Translation (NAT) multiplexes multiple subscriber IP addresses onto one or more public IP addresses.	
30.	FWALL	Firewall node monitors and filters incoming and outgoing network traffic based on configured security policies	

31.	CIPS	Cloud based Intrusion Prevention System detects and blocks malicious traffic based on known signatures	
32.	IPSEC	IPSec is a set of communication rules or protocols for setting up secure connections over a network	
33.	ePDG-CP	Evolved Packet gateway	
34.	TWAG-CP	Trusted Wi-Fi Access Gateway is responsible for interworking between the 4G / 5G NSA core and trusted non-3GPP networks	
35.	AAA	Authentication Authorization and Accounting server	
36.	ANDSF	Access Network Discovery and Selection Function	
D	**Individual modules (A total of 34 modules of IMS)**		
S. No.	**Node**	**Description**	Without Source Code
1.	I-CSCF	Interrogating Call Session Control Function	
2.	S-CSCF	Serving Call Session Control Function	
3.	E-CSCF	Emergency Call Session Control Function	
4.	LRF	Location Retrieval Function	
5.	TAS	Telephony Application Server	
6.	IPSMGW	IP SMS SIP Gateway	
7.	IPSMMAPGW	IP SMS MAP Gateway	
8.	CAPAS	CAP Application Server	
9.	USSD-AS	USSD Application Server	
10.	SLF	Subscriber Location Function	
11.	HSS	Home Subscriber Server which contains profile of 2G/3G/4G subscribers.	
12.	HSS_DLB	HSS Diameter Load Balancer is responsible for selecting the appropriate HSS during diameter query	
13.	HSS_LB	HSS Load Balancer is responsible for selecting the appropriate HSS during subscriber provisioning from B&CCS. It selects HSS based on the PLMN for which subscribers are to be created.	
14.	DRA	Diameter Routing Agent interconnects all core network nodes having Diameter protocol interfaces.	

15.	DSC	Diameter Session Controller is the node used to connect the DIAMETER interfaces of internal nodes to external nodes	
16.	CDF_DLB	CDF Diameter Load Balancer is responsible for selecting the appropriate CDF during diameter query	
17.	CDF	Charging Data Function	
18.	IMSENUM	ENUM Server for IMS	
19.	NPS	Number Portability Server	
20.	RDNS	DNS Server	
21.	USPS	Unified Subscriber Provisioning Server	
22.	EMS	Element Management System	
23.	LICCMS	LTE IMS Converged Core Management System is EMS for Container Nodes and Switch Fabric	
24.	STS	Subscriber Tracing System	
25.	TRAFFICREP	Traffic reports Function helps generating the traffic reports based on CDRs and user inputs	
26.	RLMS	Reports and Logs management system provides interface to query and display of various types of reports	
27.	TRANSCODER	Transcoding Function provides the transcoding of for audio calls	
28.	BKPRST	Backup & Restoration	
29.	P-CSCF	Proxy Call Session Control Function	
30.	IBCF	Interconnection Border Control Function	
31.	MRF	Media Resource Function	
32.	ConfAS	Conference Application Server	
33.	IMSDP	Data Plane for IMS Calls	
34.	MGCF	Media Gateway Function for PSTN Calls	

Annexure 2
General Details of the Organization

To

Date:

Head (Transfer of Technology Group)
Centre for Development of Telematics (C-DOT)
C-DOT Campus, Electronics City, Phase – 1,
Hosur Road, Bengaluru – 560100

Subject: Submission of details for Licensing/ToT of C-DOT 4G/5G NSA core with/without source code.

Pease refer to your advertisement for TOT of 4G/5G NSA and IMS floated on C-DOT website. We are interested in taking the TOT of 4G/5G NSA and IMS/individual modules as per the details mentioned below.

S. no.	Information heading	Details	
1	Name of the organization		
2	Name, designation, e-mail and mobile number of contact person		
3.	Name of CEO/Chairman		
4	Address of Registered Office		
5	Nature of Primary Business/Area of Expertise		
6	Details of telecom products, technologies or services (dealing with)		
7	GST No. of Company/Firm		
8	PAN No. of Company/Firm		
9	Financial strength of the organization: Annual turnover (in INR Cr)	FY 2022-23	
		FY 2023-24	
		FY 2024-25	
10	Net-worth of the organization (in INR Cr.)	FY 2022-23	
		FY 2023-24	
		FY 2024-25	
11	Please tick as per the list	1. Full package of 4G/5G NSA Core and IMS with source code ☐ 2. Full package of 4G/5G NSA Core and IMS without source code ☐ 3. Individual modules without source code ☐ (Please list the desired module name(s) from Annexure 1 for which TOT is requested)	

Signature of the Competent Authority (with date) (Full name)
(Designation & Stamp)