

Shared Hub VSAT Services for OIL

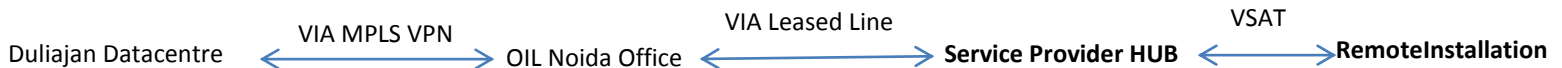
Preamble:

Oil India Limited (OIL) is a premier public sector E & P enterprise under Govt. of India. Presently in India, OIL have offices at Duliajan (Assam), Noida (UP), Jodhpur (Rajasthan), Kolkata (West Bengal), Bhubaneswar (Orissa), Guwahati (Assam) and Kakinada (Andhra Pradesh).

OIL's present operational areas are primarily located in Assam, Arunachal Pradesh and Rajasthan. In its operational area, OIL has various field installations like Oil Collecting Stations (OCS), Gas Compressor Stations (GCS), Gas Gathering Stations (GGS), Drilling locations, Seismic Survey Camps, Crude Oil Pumping stations etc. **At present, OIL's corporate computer network is extended to these field installations using Ethernet Bridged Radio Network and Shared-HUB VSAT Network. Most radio network-based installations also have VSAT connectivity as a secondary (fall back) link. However, remote locations in Arunachal Pradesh and Rajasthan are connected only via shared-hub VSAT service as the primary link.** The Radio and the VSAT network is primarily used for connectivity to OIL's Datacenter at Duliajan, District Dibrugarh, Assam for SAP ERP transactions, access to corporate intranet, access to Internet through corporate proxy server, e-mail and VoIP Telephony.

All Local Area Networks (LAN) at Duliajan (Assam), Noida (UP), Jodhpur (Rajasthan), Kolkata (West Bengal), Bhubaneswar (Orissa) and Guwahati (Assam) offices are interconnected through an MPLS VPN WAN.

In order to reduce end-to-end latency for the VSAT traffic, OIL hired a leased line from the HUB of the service provider to OIL's Corporate Office at Plot No.19, Near Film City, Sector 16-A, Noida-201301, UP. The traffic to and from a remote shared HUB location is routed as shown below:



A typical connection at a remote location having both Radio and VSAT connectivity is given in Annexure – I.

The leased line from HUB to OIL Noida office is provided by the VSAT service provider.

The present shared HUB service is provided by M/s Bharti Airtel Limited **using KU Band with MF-TDMA access scheme**. The equipment available at remote installation is as follows:

<u>S/I No</u>	<u>Device Name</u>	<u>Make</u>	<u>Device Details</u>	<u>Remarks</u>
1	SkyEdge IP Modem	Gilat	Input +24VDC/2.5A	
2	GCD Adapter Kit			Used for connecting Viasat ORU with SkyEdge IP Modem
3	V-Sat Reflector	Prodeline	1.8mtr	At remote installation
4	V-Sat Reflector	Prodeline	3.8mtr	At Duliajan Datacentre
5	ORU		2watt	

6	LNB	Viasat	NJR2754H (model)	
7	Mediant-1000-1E1	Audio Codes		VoIP gateway connected to OIL's IP-enabled Telephone Exchange
8	MP-112FXS	Audio Codes		VoIP boxes at remote stations for using normal analog telephones on VoIP – 2Ports
9	MP-114(FXS)	Audio Codes		VoIP boxes at remote stations for using normal analog telephones on VoIP – 4 Ports
10	Smart-UPS- 1000UX	APC		UPS for the Remote Locations
11	Router	Cisco-871		Router at Remote location.

At present, OIL has 65 (Sixty Five) nos. of running VSAT sites including one at Duliajan Datacentre. The remaining 17 (Seventeen) nos. are kept as spares and for future deployment.

Among the 65 locations, some sites are temporary in nature, where the VSAT is deployed for a period of 2 – 6 months. The same is shifted to headquarter at Duliajan as spare or to a new remote location.

OIL is in the process of deploying SCADA (Supervisory Control and Data Acquisition System) in its OCS, GCS and GGS with its MCS (Master Control System) at Duliajan. The radio and the VSAT network mentioned above will also be used as communication channel for the upcoming SCADA project.

In order to provide a fall back network to all radio-linked remote locations, the existing VSAT network will be extended to 30 (Thirty) more locations.

Also, in order to provide a failover network for the existing MPLS VPN link connecting all offices of OIL to its Datacentre at Duliajan, OIL is also exploring the possibility of having dedicated VSAT links from its Jodhpur, Kolkata, Kakinada, Manabum (Arunachal), Digboi and Guwahati (2 offices) to Duliajan datacenter with a minimum assured bandwidth of 512 Kbps.

As VSAT technology is undergoing fast development and bandwidth costs are decreasing day by day, OIL is requesting fresh EOI (Expression of Interest) from service providers having Shared-HUB VSAT Service Provider License in KU band from Government of India, to provide shared-HUB VSAT service as mentioned above for 82 (Eighty Two) existing locations and extension of the same to 30 (thirty) additional locations.

Scope of Work

1. The scope of work mentioned in this document is only indicative. The detailed scope of work will be finalized after a Pre-Bid meeting with all service providers participating in expression of interest (EOI).
2. The service provider may use the existing equipment as mentioned above for present 82 (Eighty Two) locations.

3. A minimum of 256 Kbps bandwidth should be available for remote locations having radio connectivity whenever the Radio Network at that location fails. However, at any time, no. of such location will not exceed 5 (Five).
4. A minimum bandwidth of 256 Kbps has to be available for stations having VSAT as sole link. At present there are 20 (Twenty) such locations.
5. The Service provider has to supply, install and commission necessary VSAT equipment (Reflector, ODU, IDU, Cables etc.) along with routers, UPS for 30 (Thirty) new locations. All these thirty locations will be in the same CUG as the existing sites.
6. The service provider has to supply, install and commission necessary VSAT equipment (Reflector, ODU, IDU, Cables etc) along with router, UPS for 11 (Eleven) offices of OIL with **dedicated VSAT link with minimum 512 Kbps bandwidth.**
7. The service provider has to provide 4 Mbps inbound and 4 Mbps outbound bandwidth for OIL's CUG.
8. The service provider has to provide necessary Network Management services for OIL's CUG at HUB.
9. The service provider will have to provide necessary QOS of service for application-specific data at HUB for OIL's CUG as requested by OIL.
10. The service provider will have to provide necessary routing for OIL's private LANs within OIL's CUG through the HUB.
11. The service provider will have to prioritize traffic from specific sites within OIL's CUG as requested by OIL.
12. The service provider will have to implement end-to-end data encryption for OIL's data within the shared HUB and dedicated VSAT network of OIL.
13. The Service provider has to provide a web-based monitoring facility for monitoring VSATs in OIL's CUG and dedicated sites.
14. The service provider has to provide 8 Mbps Leased Line from its HUB to OIL's Noida office along with necessary leased line modems/ routers. They will have to terminate this leased line on Ethernet RJ45 port at OIL's Noida office.
15. The service provider will have to provide Annual Maintenance Service for 4 (Four) years **for all existing VSAT equipment (including network and VoIP devices) for 82 locations of OIL.**
16. The Service provider will have to provide **minimum 3 (Three) year Annual Maintenance Service for all material supplied by him.** This AMC will begin after successful completion of warranty for these items.
17. The service provider has to provide Annual Maintenance Service for the leased line along with end-point devices.
18. Service provider will have to repair / replace any defective device on OIL's VSAT Network and Leased Line within the scope of Annual Maintenance Service.
19. The service provider will have to station a maintenance team at Duliajan, having one qualified engineer and two helpers to carry out routine maintenance jobs for sites covered under VSAT network.
20. The service provider has to provide maintenance support for the VSAT locations of Oil in Rajasthan on call basis.

21. The service provider will have to provide maintenance service for all equipment for a site i.e. VSAT equipment, Network Equipment (Routers, Switches), UPS along with back-up battery, cabling etc.
22. In case of sites with temporary installation, the service provider has to transport the VSAT equipment from head office to site and install VSATs as and when required by OIL. After closure of work at temporary location (normally after 2-6 months of operation), the service provider will have to dismantle the VSAT equipment at the temporary site, transport it to a new location or to OIL headquarters. Transportation has to be provided by the service provider at his cost.
23. Service provider will have to arrange for accommodation and transport of his men and material during installation and commissioning and during AMC period.
24. The service provider will have to maintain all Health, safety, environmental and security standards of OIL.

Eligibility Criteria

1. The bidder must have a valid Commercial CUG VSAT Service Provider License in India having own Shared HUB CUG VSAT network business for minimum of last FIVE years. Documentary evidence for same has to be provided with EOI.
2. The minimum validity period for the license must be up to December, 2015.
3. Bidder should have the following

3.1 Quality and security Certification

- 3.1.1 TL9000 (Telecom certification for service provider)
- 3.1.2 ISO27001 (Information security certification)
- 3.1.3 Documentary evidences of above have to be submitted with the bid.
4. The bidder must have HUB center in India. The address of the HUB location must be provided along with EOI.
5. The service provider must have experience of providing CUG shared-HUB VSAT service for minimum 1 year as on 1st January, 2011 and to a minimum of 3 (three) customers, each having more than 25 locations in its CUG.
6. The customers mentioned against eligibility criteria 4 (four) above should not be part of the service provider or its group companies.

Minimum SLA

1. Minimum 99 % service availability at all sites.
2. For sites with dedicated VSAT unit, minimum 512 Kbps assured bandwidth has to be provided.
3. Maximum end-to-end latency 1000 ms.
4. The service provider must attend and rectify any faulty site (within Assam) within 24 hrs. of reporting the fault.

5. The service provider must attend and rectify any faulty site (For site located in Rajasthan) within 72 hrs. of reporting the fault.
6. The service provider must attend and rectify any faulty site (For site located in Arunachal Pradesh) within 48 hrs. of reporting the fault.
7. The service provider must keep minimum 3 (three) complete sets of remote site equipment at OIL, Duliajan premises (excluding VSAT reflector), inclusive of Network device (router/ switch), VoIP device, UPS with Battery as stand-by unit for replacement of defective equipment.