From: **PANDIVINAYAGAN S** <pandivinayagan@yahoo.com>
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Subject: Comments to the Advisor: Consultation Paper on Implementation Model for BharatNet
To: "kapilhanda@trai.gov.in" <kapilhanda@trai.gov.in>, Vijaya Vanitha
<vijayavanitha10@yahoo.co.in>, Raghul Premkumar <raghul1989@gmail.com>

 Dear TRAI,

The responses to the questions asked in the "Consultation Paper on Implementation Model for BharatNet" is based

on assumption that, this initiative will eventually become a very large scale implementation,at a later stage and

will become one of the essential utilities for the citizens, like electricity and water. Hence, this would call

for a dynamic and frequent, review of the technology,Cost effectiveness, scalability,Efficiency and reliability

from the start, though initial priority is to reach out, at the earliest,future elections will have great

influence from these parameters..as electronic voting by email/phone,will increase the % of voting population

greatly.This being the backbone for all Digital and electronic initiatives, its imperative that,it becomes one

of the essential utilities for people.A good Governance with supported policies and guideliness will make it a

more secure and powerful utility for the country.

Q1. Technology becomes obsolete within a short span of time, even before it is fully implemented. Scalability and

security becomes paramount importance, as network demand grows.

Q2.Though one of these model can deliver, but its cost effectiveness and meeting the timeline with a scalable,

secure and reliable infrastructure will be difficult.

Q3.BOOT model seems to be more appropriate, though it should be tweaked a lot to make it effective for the

Technology initiative.In Technology platform, BOOT is to be converted, to BOOC -- Build-Own-Operate-Continue.

The "Continue" can be the implementer or anyone who meets the requirements to continue, the

mission and vision of

the Government.....
Justification: As explained in assumption, it is better not to transfer any of fast changing technology to Govt

infrastructure, and let it be dynamic to meet the continuing future requirements

Q4. Advantages are,to continue maintain the infrastructure which is dynamic, Agile, scalable, secure,cost

effective, efficient and reliable.
Challenges are:To tweak the Terms and Conditions and the policies to ensure the above advantages are derived from

the implementor. Also frequent review of the technology on the above parameters, on an, on-going basis.

Q5. Eligiibility criteria:The SLA and QoS(Quality of Service) should be defined for the basic and essentials

services of Govt, Public, Education, Research and non-profit organisations.... The additions and modifications to

the list should be dynamic and implementer should ensure that, they abide by the regulations that, they will not

indulge in conflict of interest, at anytime and if found in violations will either immediately correct it, or

loose the contract to another agency and transfer all the necessary infrastructure, knowledge, tools and

techniques, for the new agency which has taken over from it, till the tenure is completed.

Q6. Similar to the telecome license, the monopoly by any ISP should be restricted and circle wise distribution

of agency. should encourage many new agency to take up such initiatives, as long as they show strong technical

capabilities and are already in the business.

Q7.There should be different agency selected for the top five or 6 region/circle to ensure there is no monopoly

and also to ensure that the agency's, local gateway is not leveraged to the agency benefit.Perform

due diligence of the agencies by providing weightage to their Technical,existing infra, Commercial, Historical

their independence to other vendors/agency, and ethical practices, while selecting an agency.

Q8.As indicated in response to Q5, all Govt, Edu, Non-Profit, etc.... Organisations will be provided with free

or very basic rate with appropriate Quality of Service and SLA. However, the Profit/concession/pricing for any

agency should be based on their per Square kilometer of coverage of Urban/rural and the number of connections.

Such that, any agency will try to keep the coverage and number connections more to make itself profitable, tather

that focusing on specific area/user group for their profits. The agency should be made to adhere to the periodic

revisions of the on the policies/guidelines of the Govt and an independent Non-Profit organisation which can

monior and suggest on the pricing /performance/policies to be adopted at the end of every year.

Q9.The framework consisting of Architecture,Design,security and reliability of the infrastructure should be of

defined standard to ensure that that any existing or new agency can be made inter-operable or takeover the agency

infrastructure without any technology gap. This would also ensure that the agency will have an agenda for

continuous improvement of their infrastructure with new Technology instead of saving cost by running on old

technologies.... Annual audit of the agency by the Govt and/or independent body for its ISO 27001,

framework,QoS,SLA will be regularly performed as per the Govt Guidelines and polices, which are revised from

time to time. Hence the framework, Quality of Service(QoS) and SLA should form the basis of the Terms and

conditions for the agency in its implementation.

Q10.VGF should be based on the cost effective, that cannot be achieved for the set out framework, QoS and SLA

for the specified circle/region based on the current analysis with data available and to be revised and reviewed

on an ongoing basis ..... hence a subsidy(if required during early stages after implementation will be required

till, it picks up) will remain till very early part of life of the BBNL.

Q11.Agency which completes early will get a an extension of the contract double the period of early completion.

This may work for Urban areas, for the Rural areas, along with extension of contract, it should also get the

basic rate to be charged for the non-profit, Govt,...(in its region/circle). agency, annual fee as additional

incentive from the Govt for the first year.

Q12.As mentioned in response to Q3, BOOC should be the concept to be followed and the minimum contract period

should be 10 years for the first term, extension up to 12 yrs and subsequent terms for those agency that is

selected and will continue, should be only for 5 years only. As in BOOC, there is "No transfer" but continuity (

with existing or new agency)..... time for re-evaluation and technological changes will improve and keep it agile.

Q13.As it is certain that this technology being the backbone for all the future Digital initiatives and

business communication/transactions, it will be very high growth generating huge revenue..... but, it is also to

be remembered that, for the people of India to be the ultimate beneficiary of this technology the cost of this

service, is to be kept, to the bare minimum, which is why this will be become a essential service from the Govt,

like Water, electricity, etc..... Hence any amount of profit that is observed(maybe above the max limit set)

during the semi-annual review should make provisions to take care to get the extra profit back as investment into

the backbone building a more scalable, secure and reliable infrastructure, as it is an, on-going effort and

exercise..

Q14.As the framework, QoS and SLA will be defined for all the Govt, Public, Education, Research and Non-Profit

organisations, there may not be requirement for specific assigned number of fibre, unless otherwise required for

security reasons.... A right to Audit the agency for these parameters ant time, if found required should eb added

to the Terms and Conditions clause , if required.

Q15. As responded in Q13, this service is to be launched as essential services of the Govt, likewater,

electricity, etc..... and with exception that, subsidy may not be required, but compensated with tighter controls

for its scalability, performance, security reliability. By setting out the framework, QoS and SLA, along with

the terms and conditions/policy.... the service will be made as Public service and a service to the nation.

Q16.If the RoW is not granted by the Public/Govt/State/etc... organisations,witin the specified period of time

for the timely completion of the project, the defaulting Organisation and the Agency should jointly, report with

the findings and problem, along with the likely solutions to it, within 30 days from the scheduled time. The Govt

and Independent Organisation setup for the monitoring and implementation should take up the report and resolve

it, and/or take it up further for its resolution with appropriate authority with set time limits.Excluding the

Organisation of national security(Defence, etc....) Govt should list out Organisation which can deny RoW and/or

can take it decision based on Court` rulings, to ensure the Agency take appropriate measures to foresee or

overcome the hurdles due to these Organisation with alternate options/routes.... Govt should invoke essential

services act , as necessary to get the RoW for its implementations.

Q17.Govt Subsidy amount, if required for the area of coverage, number of connections, number of (Non-Proft

Organisation + Govt Org, Edu + Research.....etc..) as deemed or eligible for(other) Govt essential services can

be leveraged by the Agency for its operational and profit, if it is deemed by the committee as appropriate for

the required period, of one year, which is extendable, based on the periodic review. This maybe be required in

very remote rural GP areas, that is to be connected. This list is to be identified by the Govt published and to

be revised every year, based on the developments.

Q18.As this is technology which is to be considered as essential services.... like TRAI,DoT,CDAC,IEEE, etc..

Bodies and organisations should be brought together to participate in its success for its policies framing to

monitoring, regulating, reviewing and recommending BBNL,throughout its lifecycle. The more the participation of

the Govt and Non-Govt bodies and organisation, more it will be for the welfare of the people.It is to be noted

that Fiber is the future for a long time to come, as it is clean and very efficient and reliable, than any other

current technologies ... like wireless(radiation.......). In future, we may have the Optical waves(light

waves) travelling through line of sight through the Telephone towers, Drones...House. Ad Posters.... etc... and

will service as alternate path for the broadband. As the technology being based on light, most of the current

investment are likely to be protected for the near future.Govt should also take up projects for its

consolidations and securing its data and infrastructure by moving it to a private cloud, as the future cyber

security will weaken the security measures over the medium of transmission.

Regards,
S.Pandivinayagan.