

# TECHNICAL SPECIFICATION, FUNCTIONAL REQUIREMENTS AND SLA FOR THE PILOT PROJECT OF DIGITAL VILLAGE (TELE MEDICINE SERVICE)

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## Change History

Sr. No.	Document version	Submission date	Drafted by	Reviewer
1.	Version 1.0	28 Dec 2016	Akhil Mahajan Devendra Azad	Technical Committee for Tele Medicine
2.	Version 1.1	11 Jan 2017	Akhil Mahajan Devendra Azad	

**This is version 1.1**

## Metadata of the Standard

S. No.	Data Elements	Values
1.	<b>Title</b>	Technical Specification, Functional Requirements And SLA For The Pilot Project Of Digital Village (Tele Medicine Service)
2.	<b>Present Status</b> (Draft/Released/Withdrawn)	Updated Draft- For consultation
3.	<b>Publisher</b>	MeitY along with NISG
4.	<b>Brief Description</b>	This document outlays the technical specification of the IT setup, function requirement specification and service level agreements for Tele Medicine services which would act as base document for the technical committee to finalize the technical & functional specifications along with SLAs.
5.	<b>Target Audience</b>	Digital village - Technical Committee and other stakeholders for Tele Medicine services
6.	<b>Source</b> (Reference to the resource from which present resource is derived)	The set of technical specification, functional requirement specification and SLAs for the following have been drafted: a) Tele-Education Service b) Tele-Medicine Service c) LED Lighting & WiFi hotspot service d) Central cloud based MIS Monitoring system <b><u>This document is “Technical Specification, Functional Requirements And SLA For The Pilot Project Of Digital Village (Tele Medicine Service)”</u></b>
7.	<b>Document Number</b>	DV/Specification/TELMED/v1.1

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## 1. Introduction to Pilot Project of Digital Village

In line with the vision of Digital India, Ministry of Electronics and Information Technology (GoI) has envisaged the Pilot of Digital Village with a view to showcase the transformation that Digital India Programme can bring about, to different stakeholders like Departments of Union Government, State Governments, Private Telecom Players, other corporate services providers and citizens especially living in the rural areas.

Digital Village pilot intends to provide a platform for availability of services such as tele medicine, tele education, LED Lighting and Wi-Fi Hotspot, skill development to the people at the Gram Panchayat level in select blocks across various States/UTs. This project moves away from the traditional approach of e-Governance projects (that focused on creating infrastructure) and adopts a service based approach for pilot of the Digital Village and will be launched across 30 States and UTs.

The key sub components under Digital Village pilot Project are:

1. Tele Medicine services – which is realization of ekranti pillar of Digital India.
2. Tele Education services – which is realization of ekranti pillar of Digital India.
3. LED Lighting and Wi-Fi Hotspot services – which is part of Digital Connectivity of Digital India.
4. Skill Development services – which is part of Digital empowerment of Digital India

Digital Village is envisaged to be rolled out pan India in two stages. The first stage would be a pilot implementation in selected block(s) across 30 States/UTs in India for Digital Village. The total duration of the pilot shall be 3 years out of which, the operations & maintenance/service delivery phase will span over 2.5 years post implementation. Post incorporating the learnings from the pilot, implementation strategy for pan India roll out shall be prepared.

### Objectives:

Given this context, MeitY along with NISG has come out with the Technical & Functional Specifications with the following key objectives:

- a) Provide basic development services to rural areas using digital technology and demonstrate the potential of digital technologies to improve quality of life in rural areas

- b) To provide Wi-Fi access at common place in the village
- c) To facilitate access to regional medical centres for local population for expert opinion, thus, ensuring availability of basic medical facilities at village level.
- d) To provide access to interactive teaching in local schools having shortage of teachers.
- e) To provide LED lighting at a common area in the village.
- f) To provide resource centres to be used for providing skill development training, holding information sharing sessions and organizing interactive sessions with experts, government officers etc.

## 2. Introduction to Tele Medicine Service

Tele Medicine is one of the services envisaged under Digital Village pilot. Under this service, a group of Primary Health Centers (3 PHCs) in the pilot block shall be parented to a lead hospital, which shall be a hospital of repute preferably either at district or state/UT level. PHC will have tele-medicine solution which will include medical diagnostics kit, video conferencing kit/inbuilt system for medical consultation sessions, and other IT devices/peripherals. Tele-med solution along with the medical kit will be used by medical/ paramedical staff at PHC to provide the vital medical data of the patient to the doctor at lead hospital who would provide the medical consultancy. The staff at PHC shall help the lead hospital doctor during the diagnosis and consultation process.

Respective States/UTs will select the agencies for implementing the Tele Medicine service in the identified pilot block(s). The selected agency will implement the pilot of Digital village in adherence to predefined Service Level Agreement (SLA) and Quality of Service (QoS) in the State/UT. In view of the above, a central level empanelment may be carried out for service providers for Tele Medicine service.

In line with above objective, Technical Committee have been formed to review & finalize the technical & functional specifications along with SLA for the service under pilot project of digital village.

## 2.1 Basic Diagnostic Tests under Tele Medicine

Basic level of Diagnostic tests under Tele Medicine service which may be offered at PHC are mentioned below. They are categorized into:

1. Routine Check-up services
2. Electrochemical and Rapid Diagnostic Tests
3. Others

Sl.No	Tests
<b>1</b>	<b>Routine Check-up Services</b>
	i. Temperature Measurement
	ii. SpO2 Measurement
	iii. B.P. Measurement
	iv. Auscultation/Digital Stethoscope
<b>2</b>	<b>Electrochemical and Rapid Diagnostic Tests</b>
	<b>a) Blood Tests</b>
	i. Blood Test for grouping and Rh typing.
	ii. Routine Blood Tests (Hb%, platelets count, total RBC, WBC, bleeding and clotting time).
	iii. Blood Sugar
	iv. Blood Cholestrol
	For identification of diseases like:
	i. Malaria
	ii. Dengue
	iii. Typhoid
	iv. Tuberculosis
	v. Chikangunya
	vi. Filaria
	<b>b) Urine Tests</b>
	i. Urine Protein
	ii. Urine Sugar
	iii. Urine Leukocytes
	iv. Urine Bilirubin
	v. Urine Specific Gravity
	vi. Urine Nitrite
	vii. Urine pH
	viii. Urine Ketone
	ix. Urine Blood
	x. Urobilinogen
	xi. Uric Acids
	Rapid tests for pregnancy
	<b>c) Diagnosis of RTI/STDs/Others</b>
	i. HIV(HIV 1 & HIV 2)
	ii. Hepatitis B (HbsAg)
	iii. Hepatitis C (HCV)
	iv. Syphilis

Sl.No	Tests
3	Others
	i. X-ray Scanner
	ii. Digital ECG

## 2.2 Major Components for Tele Medicine System

Mentioned below are the major IT component envisaged under LED Lighting & Wi-Fi hotspot service:

Sl.No	Components
1	Tele Medicine Cart
2	Tele Medicine Kit
3	Tele Medicine Software
4	Layer 2 switch
5	Software based video conferencing/video chat feature
6	Desktop
7	Printer
8	5 KVA UPS with batteries
9	Rack for switch



## 2.3 Technical Specifications

### 2.3.1 Tele Medicine Cart

Sl.No	General Specifications
1	The Telemedicine Cart should be equipped to mount tele medicine kit including medical equipment and associated IT devices/peripherals.
2	The Cart should be easy to move and should have steady base for passing through thresholds.
3	Height adjustable.
4	Should have a Microphone mount to eliminate echo during a Video Conference session.
5	Should be Modular for easy replacement of all devices.

### 2.3.2 Tele Medicine Kit

Sl.No	General Specifications
1	All Equipment should be compliant with ISO/BIS/FDA/CE/latest international standards.
2	The medical devices/equipment should preferably be in the form of an integrated diagnostic kit, which can be seamlessly interfaced (through web services, APIs, SDKs etc.) with telemedicine software, and IT devices/peripherals such as desktop/laptop/tablet etc. with USB etc.
3	The medical devices/equipment should have medical grade electrical earthing & isolation system.
4	All equipment installed for use should comply with ISO 13485/13488 standards.
5	The medical and IT hardware used must meet the relevant applicable specifications from ISO, NEMA, RoHS, EnergyStar, apart from Medical and IT standards for the equipment.
6	Medical images produced by the devices should be DICOM compatible, wherever applicable.
7	The entire telemedicine kit along with all components including IT devices/peripherals should be able to work with standard power supply – 230 V, 50 Hz.
8	PC interface for tele medicine devices: USB 2.0 and above / Wireless.

1: Routine Checkup Services					
Sl.No	Parameters\ Tests	Temperature	B.P.	Oxygen Saturation (SpO2)	Digital Stethoscope
1	Measurement Unit	°C or °F	mmHg	Oxygen Saturation : SpO2 % Pulse rate : bpm	
2	Measuring Range	32.0 to 42 °C	Pressure : 40 to 260 mmHg Pulse : 40 to 180/min	SpO2 : 0 to 100% Pulse rate : 30 to 250 bpm	Frequency : Bell (15-200Hz) Diaphragm (100-500Hz) Wide/Extended Range (15-1000Hz)
3	Resolution	0.1 °C		SpO2 : 1% Pulse rate : 1bpm	
4	Accuracy	+/- 0.1 °C (34.0 °C to 42.0 °C) , +/- 0.2 °C ( other range )	Pressure : ±3 mmHg or ±2%, whichever is greater Pulse : ±5% of reading	Accuracy : SpO2 70% to 99%, +/- 2 % Pulse +/- 2 bpm	
5	Others	-	-	-	Volume Control : 15 – 90 Db

## 2: Electrochemical and Rapid Diagnostic Tests

Sl.No	Technical Specification
1	<p>The diagnostic device kit/equipment should be able to perform blood tests/urine tests which include but are not limited to routine blood tests (Hb%, platelets count, total RBC, WBC, bleeding and clotting time), blood grouping and Rh typing, blood sugar, Troponin I, rapid tests for pregnancy, blood cholesterol, urine protein, urine sugar, urine Leukocytes, urine specific gravity, urine pH, urine Ketone, urine blood, urobilinogen, uric acids. The Rapid Diagnostic Tests should be carried out using Electronic Readers. The kit should be able to help in the diagnosis of following diseases such as dengue, malaria, typhoid, chikangunya, filaria and RTIs/STDs such as HIV(HIV 1 &amp; HIV 2), Hepatitis B (HbsAg), Hepatitis C (HCV), Syphilis etc.</p>

3: Others			
Sl. No	Parameters\ Tests	Digital ECG	X-ray Scanner
1	Features	Lead : 12-Lead Cable (10 Patient Leads)	Film size: 12" x 17"
2	Measuring Range	Heart Rate Range : 20 – 170 bpm Frequency Response : 0.05 – 150 Hz $\pm$ 3dB	Optical density range: up to 3.7
3	Sensitivity	5,10, 20 mm/mV	Bit depth: 14 bits (48 bits for colour)
4	Others	Sampling Rate : 200-1000 samples/seconds A/D Conversion : 12 bit (2.44 $\mu$ V resolution) Input Impedance : $\geq$ 10 M ohms Dynamic range : $\pm$ 6 mV Leakage Current : < 10 Micro amps Filters : HPF, LPF & Notch (50 Hz reject) or Digital Programmable	Optical Resolution: minimum 3200 x 1600 dpi Supports DICOM standards

### 2.3.3 Layer 2 Switch

Sl.No	Technical Specification
1	<b>Port type/density/architecture</b>
	a) L2 managed switch with minimum Ethernet 8 port 10/100/1000Mbps ports Base T with min 1 gigabit SFP ports for uplink
	b) All ports on the switch should be of non-blocking architecture
	c) Switch should be equipped with Variable speed Fan for cooling
	d) Supports Layer 2 features such as Port Trunking, SNMP, IGMP, VLAN and other required protocols
	e) High performance architecture of switch that is capable for providing the nonblocking switch fabric and wire-speed throughput of min 20Gbps
2	Should have minimum 256 MB DRAM and 256 MB Flash
3	Should support IPv6 in hardware and software from day 1
4	Switch should have a console port for configuration and diagnostic purposes
5	<b>Management Features:</b>
	a) SNMPv3, NTP, HTTPS, SSHv2, SCP2, SFTP, TELNET
	b) L2 Ping & L2 trace route, IPv6 telnet and TFTP, LLDP and CDP
	c) Switch should have OS API interfaces to integrate with 3rd party applications
	d) Should have automated port profile technology for smart plug and play and seamless deployment
	e) Should have media traffic monitoring with 802.1AVB or any other protocols for lossless audio video transport
	f) Switch should support 4 groups of embedded RMON (history, statistics, alarm and 3events)
6	<b>Operating Condition</b>
	a) Operating Temp: 0° C to minimum + 45° C
	b) Operating Humidity: 10% to 95% non- condensing

### 2.3.4 Desktop

Sl.No	Technical Specification
1	<b>Computer Desktop</b>
	a) Intel Core i3 2.4GHz (or equivalent), 4 GB DDR3 RAM,500GB SATA HDD or above
	b) Windows 8 or above, MS Office 2016, Standard Antivirus
	c) Integrated Graphics Card - Full HD Graphics
	d) Standard Keyboard & Optical Scroll Mouse(optionally wireless)
	e) Minimum 15.6" Full HD (1920x1080) screen or higher standard Color TFT/LCD and an additional minimum 21" Full HD(1920x1080) standard Color TFT/LCD

Sl.No	Technical Specification
	f) Network Interface Card : Ethernet 10/100/1000 Mbps Wireless Connectivity : IEEE 802.11 b/g/n WLAN
	g) Speakers: In-built
	h) Min External I/O Ports : VGA- 1 Nos, Network RJ-45 -1 Nos;USB Port – Min 4 Nos, audio port -1 Nos, Speaker jack-1 Nos, HDMI-1 Nos

### 2.3.5 Printer

Sl.No	Technical Specification
1	<b>Multi-Function Printer</b>
	a) Print(Black and white) - Copy – Scan functions
	b) Speed: A4 -Minimum 18 ppm
	c) Resolution : 600 X 600 dpi or better
	d) Scan-to-Email facility
	e) Interface : USB 2.0 high-speed and built in Ethernet Network

### 2.3.6 5 KVA Online UPS

Sl.No	Parameter	Technical Specification
1.	Technology & Topology	Fully Microprocessor with PWM technology
2.	Input Source	Source Mains/Active Power Factor Correction Make DG Set ( UPS should be compatible to take input from local DG Set)
3.	Active Power Factor Correction	In built design
a.	Output power factor	VA at 0.7 power factor output
4.	Input (Voltage)	160 V to 270 V Output (Voltage) 230V +/- 5 % ( both for load and supply variations)(Base Voltage adjustable)
5.	Output (Voltage)	230V +/- 5 % ( both for load and supply variations)(Base Voltage adjustable)
6.	Waveform (Output)	Sine Wave form with TDH less than 3%
7.	Minimum metering/investor efficiency	1. Backup available 2. Battery low audio alarm. 3. Output OK indicator. 4. Input/ Output voltage meters. 5. Load Utilization Indicator 6. UPS on Mains/Battery 7. Output frequency greater than 94%
8.	UPS type	On line (to act as power conditioner as well as Backup)

Sl.No	Parameter	Technical Specification
9.	Battery charger	Current limited, maximum voltage equal to 2.33 V/Cell
10.	Battery type and backup time	SMF batteries of sufficient AH rating for 5KVA UPS to be able to run all the equipment for at least 4 hours
11.	Protection	MCB, Fast acting Fuse, Electronic Overvoltage, under voltage, short circuit, Battery under voltage protection

## 2.4 Functional and Other Requirement Specifications for Service Provider providing Tele Medicine Solution

Sl.No	Functional Requirement Specifications
1.	The tele medicine solution should be a self-sufficient system capable of acquisition, storage, display and transmission (over a communication link) of patient information including but not limited to registration, consultation/diagnosis, results, prescription details etc. This shall be a hybrid model which supports store-and-forward and real-time based telemedicine consultation creating complete technological base of all types of services / modalities.
2.	The telemedicine solution should be able to maintain EMR data based on "Electronic Health Record(EHR) Standards For India" guidelines by Ministry of Health & Family Welfare ( source: MoHFW website : <a href="http://www.mohfw.nic.in/showfile.php?lid=4138">http://www.mohfw.nic.in/showfile.php?lid=4138</a> , accessed on 10 <sup>th</sup> Jan,2017) notified on 30 <sup>th</sup> December, 2016.
3.	The solution should be able to maintain and store information including but not limited to patient registration, consultation/diagnosis, results, prescription details etc based on the Minimum Data Set (MDS) recommended for an EMR under "Electronic Health Record Standards For India" guidelines by Ministry of Health & Family Welfare. Here, Minimum Data Set refers to <i>"The minimum set of data elements that must be captured, stored, made available for retrieval, presentation, relay and sharing by an EHR system."</i>
4.	There should be a provision to maintain data using unique identifiers for lead hospital, PHCs, lead doctors, PHC level health worker/operator/doctor etc.
5.	The tele medicine solution should provide for a software based video conferencing/video chat feature to enable live video session between the doctor and the patient.
6.	Provision at PHC level for choosing/selecting a doctor from the available master list of lead doctors for Tele-consultation.
7.	The telemedicine solution should support using 'Unique Health Identifier' (complying with "Electronic Health Record Standards For India" guidelines by Ministry of Health & Family Welfare) as a patient id to uniquely identify the patient across the service delivery points.
8.	Patient queuing feature should be available.
9.	The doctor at lead hospital should be able to feed in information in the tele medicine system related to consultation/diagnosis, prescription note etc. ((based on "Electronic Health Record Standards For India" guidelines by Ministry of Health & Family Welfare) details of which may include but not limited to medication name, drugs dose, strength, frequency and duration for which the dosage needs to be taken etc. Similarly, information on follow up visits or referrals details may also be fed into the system.
10.	The e-prescription should include details which shall include but not limited to patient details, lead doctor details, telemedicine consultation note along with date timestamp, medication and prescription details including drugs, dosage etc. complying with standard guidelines as applicable.



Sl.No	Functional Requirement Specifications
11.	The lead doctor should be able to confirm and authorize the e-prescription through digital signature . Once authorized and submitted by the lead doctor, the e-prescription should be available for view and print at both ends i.e. at the lead doctor and at the PHC level.
12.	The doctor at lead hospital should be able to view the list of all patients referred to him/her along with the patient data records, upon login and their status.
13.	The tele medicine solution should be able to track the status of the patient right from registration till the final consultation by the lead doctor.
14.	Medical record history for patients with multiple visits at the PHC - Functionality to view health/clinical records summary along with date timestamp in a chronological order from the very first visit till recent consultation.
15.	The solution should provide high resolution visible light images for patient education and medical records. It should be possible to view the images in real time or save them for later review or consultation.
16.	The medical images produced (if any) by the medical devices should be DICOM compatible.
17.	The solution should be able to ensure that data exchange is performed in a secure manner to ensure data validity and non-repudiability.
18.	Modification/Alteration/Deletion of patient clinical data and images should not be allowed post consultation.
19.	The solution should be able to support privacy, secrecy and audit trail.
20.	The service provider should ensure data protection and backup for recovery, for the pilot duration i.e. 2.5 years from the date of go-live.
21.	The solution should support report generation based on EMR data, downloadable in excel and pdf formats both at lead doctor end and at PHC level.
22.	The tele medicine solution should easily be integratable with external systems for EMR data exchange complying with standards such as HL7.
23.	There should be at least 2 free USB ports on the offered solution for connecting additional medical devices in future.
24.	Scalable Architecture : The telemedicine solution along with tele medicine software should be of open architecture and module-based covering functionality including but not limited to maintaining EMR data, MIS Reports etc., and may be scaled in future to incorporate other functionalities such as sms communication to patients etc.
25.	The service provider should ensure compliance with "Electronic Health Record(EHR) Standards For India" guidelines by Ministry of Health & Family Welfare ( source: MoHFW website : <a href="http://www.mohfw.nic.in/showfile.php?lid=4138">http://www.mohfw.nic.in/showfile.php?lid=4138</a> , accessed on 10 <sup>th</sup> Jan,2017) notified on 30 <sup>th</sup> December, 2016.
26.	Service provider should ensure supply of equipment, installation, integration, testing, Commissioning and maintenance/support of fully functional tele medicine system along with the collaborative tools, materials and consumables and services at all sites.

Sl.No	Functional Requirement Specifications
27.	Responsible for supply, testing, commissioning, test run, operation and maintenance of the tele medicine system, all those things and accessories deemed necessary & explicitly not covered in Bill of quantities (BOQ).
28.	Service Provider will be responsible to maintain tele medicine system at PHCs and lead hospital, for a period of 2.5 years from go-live. The make & model of the product supplied by service provider for the project should not come to end of life and end of support in next 5 years from the date of commissioning (OEM Certificate should be submitted by service provider).
29.	All Equipment should be covered under comprehensive on-site warranty/ Maintenance for 2.5 years from go-live by the service provider from the date of commissioning and acceptance of the system.
30.	Service Provider should ensure clear pick up of audio, video and live streaming of tele medicine session between lead doctor and patient at PHC level.
31.	Service provider should ensure that tele medicine solution should support audio, video and data collaboration at all sites.
32.	Service provider should ensure work through all firewalls using the Secure HTTP (HTTPS) protocol.
33.	Service provider should manage Configuration management of tele medicine system through GUI based software utility and using interfaces and maintain information of system history logging functions.
34.	The service provider should ensure that appropriate class of digital signature certificates for lead doctors are provisioned for, implemented and required support is provided at the sites for smooth operations and validation of e-prescription, complying with standard guidelines issued by Controller of Certifying Authorities (CCA).
35.	The service provider should maintain audit logs of the telemedicine system which may include but not limited to parameters such as number of patients administered per hour or per day, video chat/conference session login and logout timestamp, utilization of medical devices per day, lead doctor login and logout time etc. Service provider should ensure these audit logs to be push / pull to central cloud MIS application.
36.	Service provider should ensure EMR data (complying with EHR guidelines document by MoHFW as mentioned above) to be push/pull to respective State Health Information System (HIS).
37.	Service provider should ensure support wire rate throughput for L2, traffic with QoS and Security features for all interfaces.
38.	Service Provider must observe proper circuit polarity. No cables shall be wired with polarity reversal between connectors with respect to either end. Special care shall be taken while wiring cables, to ensure that constant polarity is maintained.
39.	The service provider must provide adequate protection to install equipment against electrical surges.
40.	The service provider should be responsible for providing connectivity from the terminating point of internet connection at Gram Panchayat to the PHC.
41.	Service provider should provide cabling of LAN connection at all sites.
42.	Service provider should provide adequate power backup for minimum 2 hours at the sites.

Sl.No	Functional Requirement Specifications
43.	Service provider should be responsible for renovating /repairing any electrical work at the sites.
44.	Training for knowledge transfer to engineers/operators and support personnel will also be the responsibility of the Service provider.
45.	Service Provider must furnish components, wires, connectors, materials and parts, equipment for the complete installation of the system, in accordance with recommendations of the equipment manufacturer.
46.	The service provider shall provide on-call support including assistance with operation and maintenance of the system at respective location(s) all free of cost for a period of 2.5 years from the date of go-live.
47.	Operators deployed by the service provider at sites will be responsible for operating the entire tele medicine system.k
48.	Patient Safety Norms as per Industry standards and Best practices should be followed by the service provider.

## 2.5 Service Level Agreement

Service Level Agreement of Service provider																																
1	<p><b>Uptime at PHC Level</b>  <i>"Uptime" shall mean the time period for which the specified services and components with specified technical and service standards are available to at that location.</i></p> <p><i>Uptime, in percentage, will be calculated as:</i>  <i>Uptime PHC % = (actual uptime of tele medicine platform in that PHC) / (Total expected duration of working during that period for that PHC) * 100 ]</i></p>																															
2	<p><b>Uptime at Lead Hospital Level</b>                      Uptime will also be measured for lead hospital based on the formula given below</p> <p><i>Uptime of associated lead hospital % = (actual uptime of tele medicine platform that lead hospital) / (Total expected duration of working during that period for that lead hospital) * 100 ]</i></p>																															
3	<p>For calculation of uptime for service level adherence purpose, the lower uptime percentage out of the following two would be considered as the uptime for that :</p> <p>a) Uptime of PHC %                      b) Uptime of associated lead hospital %</p>																															
4	<p>Based on the uptime identified above , the following penalty shall be applicable</p> <table border="1"> <thead> <tr> <th colspan="3">System Availability SLAs and Penalty per location</th> </tr> <tr> <th>S.No</th> <th>System availability value for month/quarter</th> <th>Penalty</th> </tr> </thead> <tbody> <tr> <td>a)</td> <td>&gt;= 99.7%</td> <td>Nil</td> </tr> <tr> <td>b)</td> <td>&gt; 99% but &lt; 99.7%</td> <td>1% of monthly/quarterly billed amount for that location</td> </tr> <tr> <td>c)</td> <td>&gt;= 98% but &lt; 99%</td> <td>2% of monthly/quarterly billed amount for that location</td> </tr> <tr> <td>d)</td> <td>&gt;= 96% but &lt; 98%</td> <td>4% of monthly/quarterly billed amount for that location</td> </tr> <tr> <td>e)</td> <td>&gt;= 90% but &lt; 96%</td> <td>7% of monthly/quarterly billed amount for that location</td> </tr> <tr> <td>f)</td> <td>&gt;= 85% but &lt; 90%</td> <td>12% of monthly/quarterly billed amount for that location</td> </tr> <tr> <td>g)</td> <td>&gt;= 75% but &lt; 85%</td> <td>25% of monthly/quarterly billed amount for that location</td> </tr> <tr> <td>h)</td> <td>&lt;75%</td> <td>No payment for monthly/quarterly billed amount for that location</td> </tr> </tbody> </table>		System Availability SLAs and Penalty per location			S.No	System availability value for month/quarter	Penalty	a)	>= 99.7%	Nil	b)	> 99% but < 99.7%	1% of monthly/quarterly billed amount for that location	c)	>= 98% but < 99%	2% of monthly/quarterly billed amount for that location	d)	>= 96% but < 98%	4% of monthly/quarterly billed amount for that location	e)	>= 90% but < 96%	7% of monthly/quarterly billed amount for that location	f)	>= 85% but < 90%	12% of monthly/quarterly billed amount for that location	g)	>= 75% but < 85%	25% of monthly/quarterly billed amount for that location	h)	<75%	No payment for monthly/quarterly billed amount for that location
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e)	>= 90% but < 96%	7% of monthly/quarterly billed amount for that location																														
f)	>= 85% but < 90%	12% of monthly/quarterly billed amount for that location																														
g)	>= 75% but < 85%	25% of monthly/quarterly billed amount for that location																														
h)	<75%	No payment for monthly/quarterly billed amount for that location																														
<b>Manpower</b>																																
5	The service provider should provide sufficient manpower to ensure platform availability																															

**Service Level Agreement of Service provider**

6	Availability of the operator at all sites during the service sessions should be ensured Penalty on non-availability of the operator would be 1 % per hour of non-availability of monthly/quarterly billed amount for that location
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\*\*\*\*\*END\*\*\*\*\*