



**Ministry of Education, Science and Technology**

**ADDENDUM 01 TO THE BIDDING DOCUMENT**

**Procurement of a service of a System Integrator (SI)  
to revamp the Lanka Government Cloud (LGC) with required  
hardware and software**

IFB No: MoT/DEV/PRO/LGC/Vol/i

Employer: Secretary,  
Ministry of Education, Science and Technology,  
Level 11, Unit No: 1101, One Galle Face Tower,  
No 1 A, Centre Road, Galle Face, Colombo 02.

**NOVEMBER 2024**

# Addendum 01

**Procurement Title:** Procurement of a service of a System Integrator (SI) to revamp the Lanka Government Cloud (LGC) with required hardware and software - IFB No: MoT/DEV/PRO/LGC/Vol/i

#	Bid document Reference	Original	Amended
1	<p><b>Section iii</b></p> <p><b>Evaluation and Qualification Criteria</b></p> <p><b>Item 08 of Section 3.3.2 Technical Marks Assign for each</b></p>	<p>The backup software must support VM-level replication with or without backup at the source site, including failover and failback capabilities, and automatic network address acquisition at the destination site. It should enable continuous replication at the VM level with an RPO of less than 5 seconds, ensuring application consistency. The solution should support replication across dissimilar systems, to create a disaster recovery environment. It should also facilitate bare metal recovery for physical servers, even on dissimilar hardware, and allow cloud VM backups from AWS or Azure to be restored to proposed Private Cloud platform.</p>	<p>The <b>proposed solution</b> must support VM-level replication with or without backup at the source site, including failover and failback capabilities, and automatic network address acquisition at the destination site. It should enable continuous replication at the VM level with an RPO of less than 5 seconds, ensuring application consistency. The solution should support replication across dissimilar systems, to create a disaster recovery environment. It should also facilitate bare metal recovery for physical servers, even on dissimilar hardware, and allow cloud VM backups from AWS or Azure to be restored to proposed Private Cloud platform.</p>
2	<p><b>Section iii</b></p> <p><b>Section 3.3.2 Technical Marks Assign for each category</b></p>	<ol style="list-style-type: none"> <li>1. Serial number was not in order</li> <li>2. No marks were allocated for item 7 and 8</li> </ol>	<ol style="list-style-type: none"> <li>1. <u>Order is corrected</u></li> <li>2. <u>100 marks were allocated for each item</u></li> </ol> <p>Please use <b>Annex 2</b> amended section 3.3.2. for bid submission</p>
3.	<p><b>Section iii</b></p> <p>3.8 Key Personnel and Details</p> <p><b>Minimum Qualification of the Proposed Implementation Team</b></p>	<p>RHCA with minimum 5 years of experience - 2 staff</p>	<p><b>RHCE</b>, with minimum 5 years of experience - 2 staff</p>
4.	<p><b>Section iv bidding forms</b></p> <p><b>4.8.2. Price Schedules</b></p>	<p>a. Title of table 4.8.2.1 : Implementation, Support, and Maintenance Cost</p> <p>b. 4.8.2.1 <b>Note 2:</b> Annual Local support and maintenance costs (items 9, 10, 11) should comprise at least 2.5 % of the total Implementation cost.</p> <p>c. <b>4.8.2.3 Annual Local Support and maintenance</b></p>	<p>a. <u>Title of the table 4.8.2.1 Implementation cost</u></p> <p>b. <b>Removed</b></p> <p>c. <b>4.8.2.2 included the Note 2:</b> Annual Local support and maintenance costs should comprise at least 2.5 % of the total</p>

		<b>d. 4.8.2.4 Grand Summary</b>	Implementation cost. <b>d. 4.8.2.4 Grand Summary table changed with above a.b.c</b> <u>Please use <b>Annex 01</b> amended section 4.8.2. price schedule for bid submission</u>
5	Section iii - Evaluation and Qualification Criteria (3.3.2. Technical marks assigned for each category),  <b>Item 6: Proposed Solution Billing and Showback</b>	The Billing and Showback feature is required to provide detailed and transparent tracking of service usage and associated costs within an organization. This feature enables organizations to monitor, allocate, and report expenses effectively, ensuring financial accountability and better budget management across different departments or business units.	The Chargeback and Showback feature is required to provide detailed and transparent tracking of service usage and associated costs within an organization. This feature enables organizations to monitor, allocate, and report expenses effectively, ensuring financial accountability and better budget management across different departments or business units.
6	Section VI - Schedule of Requirements- page 114, clause 75	The solution shall provide capacity analytics by <b>automatically</b> right sizing VMs to reclaim idle resources which allow administrators to optimize VM density, identify capacity shortfalls before they affect end users and have efficient use of virtualized resources	The solution shall provide capacity analytics by <b>recommending</b> right sizing VMs to reclaim idle resources which allow administrators to optimize VM density, identify capacity shortfalls before they affect end users and have efficient use of virtualized resources
7.	Section VI - Annex 2 – Block Storage – Point number 8.2	Shall be configured with not less than <b>600TB of effective capacity</b> (After Raid & compression) for site 1  Shall be configured with not less than <b>250 TB of effective capacity</b> (After Raid & compression) for site 2	Shall be configured with not less than <b>600TB of effective capacity</b> (After Raid & compression) for site 1 with minimum 200 TB usable capacity. Bidder should provide a written guarantee on requested effective capacity. Failure to comply, bidder should provide the required capacity on FOC basis.  Shall be configured with not less than <b>250 TB of effective capacity</b> (After Raid & compression) for site 2 with minimum 90 TB usable capacity. Bidder should provide a written guarantee on requested effective capacity. Failure to comply, bidder should provide the required capacity on FOC basis.
8	ITB 26.1 – Section II Bid Data sheet	For bid submission purposes only, the Employer’s address is Attention: Meeting Room, Science and Technology Division of The Ministry of Education, Science and Technology (MOEST) , Level 11, Unit No: 1101,One Galle Face Tower, No 1 A, Centre	For bid submission purposes only, the Employer’s address is :  Meeting Room, Science and Technology Division of The Ministry of Education, Science and Technology (MOEST) , Level 11, Unit No: 1101,One Galle Face Tower, No 1 A, Centre Road, Galle Face,

		Road, Galle Face, Colombo 02  The deadline for bid submission is <b>Date: 20 th November, 2024 Time: 15.00 hrs.</b>	Colombo 02  The deadline for bid submission is <b>Date: 26 th November, 2024 Time: 15.00 hrs.</b>
9	ITB 22.1 – Section II Bid Data sheet	The bid validity period shall be 91 days after the Deadline for Submission of Bids, as specified below in reference to ITB Clause 26. The bid shall be valid until and inclusive of <b>February 19, 2025</b>	The bid validity period shall be 91 days after the Deadline for Submission of Bids, as specified below in reference to ITB Clause 26. The bid shall be valid until and inclusive of <b>February 25, 2025</b>
10	ITB 23.2 – Section II Bid Data sheet	Bid Security must be submitted using only the prescribed form included in this Bidding Document. Bid Security should be from a Commercial Bank and valid for 28 days beyond the <b>validity period of the bid. i.e 19th March 2025</b>	Bid Security must be submitted using only the prescribed form included in this Bidding Document. Bid Security should be from a Commercial Bank and valid for 28 days beyond the <b>validity period of the bid. i.e 25th March 2025</b>
11	ITB 29.1 – Section II Bid Data sheet	The opening of Technical Bids shall take place immediately after bid closing at Science and Technology Division of the Ministry of Education, Science and Technology (MOEST), Meeting Room, Level 11, Unit No: 1101, One Galle Face Tower, No 1 A, Centre Road, Galle Face, Colombo 02 Date: <b>20th November 2024</b>	The opening of Technical Bids shall take place immediately after bid closing at Science and Technology Division of the Ministry of Education, Science and Technology (MOEST), Meeting Room, Level 11, Unit No: 1101, One Galle Face Tower, No 1 A, Centre Road, Galle Face, Colombo 02 Date: <b>26th November 2024</b>
12	ITB 10.1 – Section I Bid Data sheet	The Employer will respond to any request for clarification, provided that such request is received no later than fourteen (14) days prior to the deadline for submission of Bids	<b>ITB 10.1 – Section II Bid Data sheet</b>  The Employer will respond to any request for clarification, provided that such request is received no later than <b>6<sup>th</sup> November 2024</b>

Chairman,  
Ministry Procurement Committee  
Technology and Science Division of Ministry of Education, Science and Technology,  
Level 11, Unit No: 1101, One Galle Face Tower,  
No 1 A, Centre Road, Galle Face, Colombo 02.

12<sup>th</sup> Nov 2024

## 4.8.2. Price Schedules

### 4.8.2.1. Implementation Cost

Item	Description	Unit price	Qty	Amount/ exclusive of VAT	Amount of VAT	Amount/ with VAT
01	Supply, install , configure and support maintenance for the proposed cloud management platform ( 2)					
02	Supply, install, configure, warranty and support for Compute nodes					
03	Supply, install, configure, warranty and support for storage system ( 2)					
04	Supply, install, configure, warranty and support for existing hardware upgrades					
05	Supply, install, configure, warranty and support for SAN switches					
06	Warranty, Support and maintenance for existing hardware ( excluding Firewalls)					
07	License renewal, Support, and maintenance for existing Firewalls					
08	Supply, install, configure warranty, support and maintenance for backup solution ( hardware and software)					
09	Training					
10	Other (specify)					
<b>Total Implementation cost:</b>						

**Note 1:** The bidder should include all cost components as outlined in the table above. If there are any additional cost components not listed in the provided price schedule, the bidder should specify them in the "Other Costs" section. Furthermore, the bidder is required to provide all necessary licenses, support, maintenance, configuration, and installation services without incurring any costs beyond those specified in the price schedule.

**Note 2:** Annual Local support and maintenance costs (4.8.2.2) should be at least 2.5 % of the total Implementation cost.

Example for ascertaining annual local support and maintenance cost  
If Total implementation cost = 100

Then , Annual local support and maintenance cost for year 1 = 2.5  
Year 2 = 2.5  
Year 3 = 2.5

### 4.8.2.2. Annual local support and maintenance

Item	Description	Qty	Amount / exclusive of VAT	Amount of VAT	Amount with VAT
1	Year 1				
2	Year 2				
3	Year 3				
	<b>Total</b>				

### 4.8.2.3. Unit cost for future expansions

Item	Description	Qty	Amount / exclusive of VAT	Amount of VAT	Amount with VAT
01	Expansion of compute requirements with a single node using same model / brand / config proposed for site 2 & 1 , including all necessary hardware and software licenses	1			
02	Expansion of Storage by 50 TB effective capacity with all the related hardware and software licenses	1			
03	Expansion of VM-based replication licenses by an additional 10 licenses	1			
04	Expansion of VM-based backup licenses by an additional 10 licenses	1			
05	Supply , install configure for GSLB	1			
	Total cost ( unit prices)				

Note : Bidder is required to provide the cost for each item listed above, as the Ministry of Education, Science and Technology (MOEST) may need to offer additional services to government organizations as required. The bidder should clearly indicate any scalability limitations, such as the maximum number of licenses that can be incorporated without causing any performance degradation when utilizing these functionalities. Furthermore, the bidder must ensure that any additional licenses are provided at the same unit cost as specified in the table above, and the mentioned pricing remains applicable throughout the contract period. For each item listed above support and maintenance cost should be covered throughout the contract period.

### 4.8.2.4. Grand Summary

Item	Description	Amount without VAT	Amount of VAT	Amount with VAT
01	Total Implementation cost ( table 4.8.2.1)			
02	Total Annual cost for local support ( Table 4.8.2.2)			

03	Total Unit cost for future expansions (table 4.8.2.3)			
	<b>Total Bid Price for the evaluation purpose</b>			

Note: The Sum of Total Implementation cost (4.8.2.1) and Total Annual cost for local support ( 4.8.2.2) will be the awarding contract price. Total Unit cost for future expansions will be the rate card for future applicability where it is needed.

Annex 2

3.3.2. Technical marks assigned for each category

#	Criteria	Description	Sub Points	Marks	Reference to BOQ / Datasheets/ Technical write up
1	<b>Proposed Solution - Hybrid Cloud Readiness</b>	As the Government of Sri Lanka (GoSL) moves towards a more strategic utilization of public cloud services, it is essential that the proposed private cloud management solution has the capability to seamlessly extend certain aspects of the private cloud environment into public clouds. This extension will enable consistent management, operations, and integration across both private and public cloud infrastructures. Such capability is vital for leveraging the scalability and flexibility offered by public clouds while ensuring control over critical workloads within the private cloud	<ol style="list-style-type: none"> <li>1. Out-of-the-Box Hybrid Cloud Integration:</li> <li>2. Unified Management and Operations:</li> <li>3. Support for Workload Mobility and Disaster Recovery:</li> <li>4. Support for multi-hypervisor environment including vSphere, Hyper-V, RHEV and XEN</li> </ol>	100	



2	<b>Proposed Solution - Life Cycle management</b>	Lifecycle management refers to the comprehensive automation of the processes involved in maintaining and updating proposed cloud infrastructure. This includes the ability to manage updates, patches, and upgrades for all components within the infrastructure stack—compute, storage, networking, and the management layer. The Proposed solution lifecycle management system should have capability to minimize human intervention, reduce downtime, and ensure that the infrastructure remains consistent and up-to-date with the latest features and security enhancements.	<ol style="list-style-type: none"> <li>1. To reduce Operational Complexity (Automated Updates and Patching)</li> <li>2. Predictability and Risk Reduction ( Pre-validated Upgrade Paths)</li> <li>3. Uptime and Availability</li> <li>4. To perform administrative tasks includes: <ol style="list-style-type: none"> <li>i) Network Settings</li> <li>ii) Storage Settings</li> <li>iii) Single Sign On</li> <li>iv) Proxy Settings</li> <li>v) Download upgrade bundles</li> <li>vi) Deploy IaaS Operations and Automation</li> <li>vii) Configure the connection between the IaaS Operations and Automation and the workload domain</li> <li>viii) Backup configuration</li> </ol> </li> </ol>	100	
3	<b>Proposed Solution - Unified management capabilities</b>	Unified management platform refers to the ability of a cloud management solution to provide a single, integrated interface for managing all aspects of the cloud environment, including compute, storage, networking, and security.	<ol style="list-style-type: none"> <li>1. Single Pane of Glass</li> <li>2. Automation and Orchestration</li> <li>3. Hybrid cloud management</li> <li>4. Container workload management</li> </ol>	100	
4	<b>Proposed Solution - Security features &amp; compliance</b>	The proposed hypervisor and cloud management solution must include robust security features, as it is intended to serve various government organizations across different industry sectors. Therefore, the solution should effectively address the specific security and compliance requirements of each domain.	<ol style="list-style-type: none"> <li>1. Data encryption and Privacy protection ( VM level encryption, data at rest encryption, integration with KMS)</li> <li>2. Access control and Identity management ( Multi factor authentication, RBAC, SSO)</li> <li>3. Security compliance and auditing (PCI-DSS, HIPAA, SOC)</li> <li>4. Granular level network security and isolation.</li> </ol>	100	

5	<b>Proposed Solution - Hypervisor capabilities - Seameless migration of VMs in between different HW / CPU</b>	<p>The proposed hypervisor solution must allow seamless migration across different CPU models per-VM during migrations across hosts in a cluster and during hardware refresh , refers to the ability of the hypervisor to move virtual machines (VMs) between different physical servers without requiring the VMs to be shut down, even if the servers have different CPU architectures or models.</p>	<ol style="list-style-type: none"> <li>1. Cross-Hardware Migration</li> <li>2. Live Migration Support</li> <li>3. CPU Compatibility Handling</li> </ol>	100	
6	<b>Proposed Solution Billing and Showback</b>	<p>The Billing and Showback feature is required to provide detailed and transparent tracking of service usage and associated costs within an organization. This feature enables organizations to monitor, allocate, and report expenses effectively, ensuring financial accountability and better budget management across different departments or business units.</p>	<ol style="list-style-type: none"> <li>1. The solution shall provide VM Cost showback reports</li> <li>2. Required to get additional reports to show VM Cost grouped by Application, Cluster, Datacenter, Department, Organization, Project, Tenant, and VM Folder.</li> <li>3. Should provide a projected cost and the trend of total cost for the last few months.</li> <li>4. Should provide the granular cost visibility</li> </ol>	100	
7	<b>Proposed Backup Solution Reporting Capabilities, Security &amp; Compliance</b>	<p>The proposed backup software must include capacity planning, real-time monitoring, and extensive reporting with customizable formats. It should also offer integrated security features, including malware detection and compliance dashboards. Automated actions for alarms and a secure approval process for backup deletions are required, along with all necessary hardware to support these functions.</p>	<ol style="list-style-type: none"> <li>1. The software must support trend analysis for capacity planning with extensive alerting and customizable reporting.</li> <li>2. The solution should provide 24x7 real-time monitoring with detailed views of virtual host performance.</li> <li>3. An integrated security and compliance dashboard must be included.</li> <li>4. The software should support automated or semi-automated actions for common alarms.</li> <li>6. The solution should offer on-demand scans for malware attacks.</li> <li>7. Requires dual approval for any backup deletion.</li> </ol>	100	

8	<b>Disaster Recovery Capabilities</b>	The proposed solution must support VM-level replication with or without backup at the source site, including failover and failback capabilities, and automatic network address acquisition at the destination site. It should enable continuous replication at the VM level with an RPO of less than 5 seconds, ensuring application consistency. The solution should support replication across dissimilar systems, to create a disaster recovery environment. It should also facilitate bare metal recovery for physical servers, even on dissimilar hardware, and allow cloud VM backups from AWS or Azure to be restored to proposed Private Cloud platform.	<ol style="list-style-type: none"> <li>1. Supports VM-level replication with or without source site backup, including failover and failback with automatic network address acquisition.</li> <li>2. Provides continuous VM-level replication with an RPO of less than 5 seconds and ensures application consistency.</li> <li>3. Supports replication between dissimilar systems, enabling disaster recovery across different hardware setups.</li> <li>4. Offers built-in bare metal recovery for physical servers, even on dissimilar hardware.</li> <li>5. Allows backups of cloud VMs from AWS or Azure to be restored to proposed Private Cloud Platform.</li> </ol>	100	
9	<b>Migration Plan</b>	The bidder is required to provide a comprehensive explanation of the strategies, tools, and methodologies that will be employed to achieve migration with minimal downtime.	<p>This explanation should include, but not be limited to, the following aspects:</p> <ol style="list-style-type: none"> <li>1. Pre-Migration Assessment and Planning</li> <li>2. Data Synchronization Techniques</li> <li>3. Migration Approach</li> <li>4. Post-Migration Validation and Rollback Procedures</li> <li>5. Stakeholder Communication and Coordination</li> <li>6. Experience in data migration/similar setup</li> </ol>	100	
10	<b>Industry Certifications for standardization (e.g., ISO)</b>	This criterion evaluates the bidder's adherence to internationally recognized industry standards and best practices, as demonstrated by their possession of relevant certifications, such as ISO. These certifications are indicators of the bidder's commitment to quality, security, and operational excellence, and provide assurance that the bidder follows rigorous processes and methodologies in their operations.	<ol style="list-style-type: none"> <li>1. Certifications related to Quality management</li> <li>2. Certifications related to Information Security Management</li> </ol>	100	

## ANNEX 03 – Red Hat Subscriptions

Subscription Name	Subscription Number	End Date
Red Hat Satellite Infrastructure Subscription	8448805	12/19/2024
Red Hat Beta Access	9561834	12/19/2024
Red Hat Enterprise Linux Server, Premium (Physical or Virtual Nodes)	14054517	12/19/2024
Red Hat OpenStack Platform (without guest OS) with Satellite, Premium (2-sockets)	14054520	12/19/2024
Red Hat OpenStack Platform with Satellite, Premium (2-sockets)	14054519	12/19/2024
Red Hat Ceph Storage, Premium (Up to 512TB on a maximum of 25 Physical Nodes)	14054529	12/19/2024
Red Hat Developer Subscription for Individuals	13947863	12/6/2024
Red Hat OpenShift Dedicated on Customer Cloud Subscription Single AZ Cluster Fee with Application Foundations (General Purpose (4x 4vCPU,16GB RAM), 1 Year, Promotional)	13678095	10/12/2024
Red Hat Developer Subscription for Individuals	13660778	10/9/2024
Technical Account Management Services for Red Hat OpenStack Platform	13414540	8/27/2024
Red Hat Ceph Storage, Premium (Up to 512TB on a maximum of 25 Physical Nodes)	9200920	5/30/2024
Red Hat Virtualization (2-sockets), Premium	9200924	5/30/2024
Red Hat OpenStack Platform with Satellite, Premium (2-sockets)	9200947	5/30/2024
Red Hat Ceph Storage, Premium (Up to 256TB on a maximum of 12 Physical Nodes)	9200957	5/30/2024
Red Hat Virtualization Manager	9200959	5/30/2024
Red Hat Virtualization Manager for IBM Power	9200962	5/30/2024