

<b>Subject</b>	Procurement of Service Provider for Installation, Configuration and Maintenance of Application Stacks for the Lanka Government Cloud 2.0 Contract No: ICTA/GOSL/SER/NCB/2016/26
<b>Date</b>	August 31, 2016 – 1400 hrs (2.00 p.m.)

**Meeting Participants**

Representatives from Bidders

Subodini Lokuhapuarachchi – Bartleet Technologies  
 Raiz Qadir – Bartleet Technologies  
 Pushpa Ranathunga – Sri Lanka Telecom  
 Dileka Siriwardana – Sri Lanka Telecom  
 Lakshitha Paranvitharana – Sri Lanka Telecom  
 Vimal Palitha – Just In Time  
 Varuna Haputhanthri – Just In Time  
 Shah Navaz – Just In Time  
 Lasith Hatarasinghe – Fossmart  
 Gourav Shah – Fossmart  
 Shehan Athapathu – Informatics  
 Dasath Rivinda – Informatics  
 Premalal Kepetigoda – Informatics  
 Indika Wasala – KBSL  
 Shamal Senevirathna – KBSL  
 Susil Peiris – Metropolitan Office (PVT) Ltd.  
 Sadeepa Palliyaguru – VS Information System  
 Anushka Gunawardana – PWC  
 Rajith Ranawaka – PWC  
 Reza Junaid – Softlogic Information Technology  
 Regie Yogendran - Softlogic Information Technology  
 Roy Jeberson - Softlogic Information Technology  
 V. Presannan – Vmware  
 Chaminda Abeykoon – N-Able  
 Buddhika Kasturiarachchi - N-Able

ICTA representatives

Mr. Gamini Karunaratne, Director-Procurement & Head-Administration (ICTA)  
 Mr. Sujith Jayasuriya, Programme Manager (ICTA)  
 Mr. Himira Rathnathilaka, Senior Information Systems Architect (ICTA)  
 Mr. Duminda Jayasuriya, Systems Engineer (ICTA)  
 Mr. Lahiru Abeygunawardana, Procurement Executive (ICTA)

#	Discussion points
1.	Q: What are the specifics of support? C: As stipulated in the document. <b>Refer the Addendum-01.</b>
2.	Q: Do you allow connecting remotely? C: No. Any changes will be notified in future.
3.	Q: How soon will the project commence? C: This project can be initiated once the bare-metal facilities are in place. (Most probably during the month of November).
4.	Q: Hadoop has multiple distributions. Any preferred distribution? C: Refer the compliance sheet carefully, distribution should be in compliance to the requirements.
5.	Q: Should all three Lots be monitored by one platform or multiple? C: Multiple, In a case of consolidated monitoring system, role based access to different environments should be available.
6.	Q: Page 81 Certain flavors of Hadoop will require a waiting period. That is, they can only be provided once the principal allows. For example CDH 5.8. In this case what flavor of Hadoop should we quote? C: Use the most stable version of distribution and other required modules.
7.	Q: Pg 74, point number 12 & 13 What do you expect from these points? C: System should support.
8.	Q: Lot No. 1 is Open Stack, how many Hypervisors must it support? C: System should support multiple Hypervisors.
9.	Q: In Page 62 [3.3] (item 5). This requirement is unclear please explain. C: The bidder must specify the certified solution
10.	Q: Is it possible to receive a editable version of the bidding document? C: As a practice, only the portable document format (pdf) is provided.
11.	Q: With regards to authentication should all 3 Lots be authenticated separately or together? C: Separately.
12.	Q: Will you provide the licensing for the Mesosphere? C: Yes.

13.	<p>Q: Will you provide the licensing for the OpenStack?</p> <p>C: No.</p>
14.	<p>Q: Do you prefer separate network monitoring for the General Cluster?</p> <p>C: Yes, all should be monitored including storages, switches, nodes, VMs, containers etc.</p>
15.	<p>Q: In Page 63 (3) what is the exact requirement of this point?</p> <p>C: CMP should support mentioned multiple Hypervisors, Openstack and public cloud</p>
16.	<p>Q: Appendix D &amp; Appendix E (page 95 &amp; 96), Foreign Currency &amp; Local Currency; How do we populate this form?</p> <p>C: Please refer Instruction to Bidders (ITB) clause 15.2</p> <p>Break down of cost components incurred in Foreign currency to be shown in Appendix D provided in Page 95. Break down of cost incurred in Local currency to be shown in Appendix E provided in Page 96.</p>
17.	<p>Q: When payment is made in foreign currency there is a tax component. Should we include this tax in the finance forms?</p> <p>C: Please refer Instruction To Bidders (ITB) clause 14.3</p>
18.	<p>Q: How does the Bid Guarantee work when bidding for only two Lots?</p> <p>C: Please refer Section II: Bid Data Sheet (BDS) for ITB 17.2</p>
19.	<p>Q: In Page 72, under Training, how many members should we train and what would be the location?</p> <p>C: A maximum of 5 members should be trained on-site. If training is to happen off-site ICTA will facilitate it. For any Lot the maximum members to train would be 5.</p>
20.	<p>Q: After the training is conducted should there be a certification process?</p> <p>C: No.</p>
21.	<p>Q: Are options allowed?</p> <p>C: No. Refer the Addendum-01.</p>
22.	<p>Q: Will the clause 32, Bidding Data Sheet (Page 22) be applicable?</p> <p>C: Yes. Refer the Addendum-01.</p>
23.	<p>Q: Page 19 Bidding Data Sheet 4.1 Please clarify.</p> <p>C: The bidder must submit the necessary authorization documents from the principal.</p>
<p>Queries forwarded by Bidder</p>	

24.	<p>Q: There are three parts to this Bid hence we need to clarify if we are supposed to submit three separate bids or one bid? (As per Bid Document only one bid per bidder)</p> <p>C: Please refer Bid Data for ITB 1.1 Bidder as their option may select their bids as specified.</p>
25.	<p>Q: If it's going to be one bid then is it okay to have one JV agreement including all the partners?</p> <p>C: Each Lot shall be evaluated separately. Advisable to have separate JV agreements if three separate partners intend to form JVs.</p>
26.	<p>Q: If it's a JV, should the bid be purchased under the Primer Partner or under the name of all parties involved?</p> <p>C: Any party to the JV may purchase the bidding document.</p>
<p>Queries forwarded by a bidder</p>	
27	<p>Q: Does the bidder need to propose a 3rd party Backup Management Solution?</p> <p>C: Bidder's responsibility.</p>
28	<p>Q: No Storage environment for backup is provisioned in the current RFP. Does the bidder also need to propose target Storage for backup?</p> <p>C: Target storage for backup would be Ceph or equivalent storage back-end (Please note that this is not a RFP, but the Bidding Document).</p>
29	<p>Q: If 28 (above) is yes, please specify the target capacity.</p> <p>C: Not Applicable</p>
30	<p>Q: How many copies of backed up data to be kept? What would be the retention period?</p> <p>C: 1 copy, retention period 2 months</p>
31	<p>Q: What kind of data needs to be backed up, Database, VM images, Application Binaries etc.?</p> <p>C: VM images</p>
32	<p>Q: What are the expected backup levels (Full, Incremental, Periodic etc.) and levels of granularity while restoration?</p> <p>C: Full and incremental backup</p>
<p>OpenStack based Cloud Platform (Distribution) : Page no. 62</p>	
33	<p>Q: The Current release of Enterprise OpenStack from Red Hat has 3 years of Lifecycle and the next release of Enterprise OpenStack will have 5 years of Lifecycle, which is due for release shortly. Hence request to change the compliance requirement of OpenStack Lifecycle to 3 years OR 3 to 5 years.</p> <p>C: 3 Years</p>

Network Option (SDN Controller Queries) : Page no. 65

34	<p>Q: Why Openflow 1.3 or higher? Is there any specific use cases which has dependency on this version?</p> <p>C: No specific dependency on 1.3, it's widely used stable version at the moment.</p>
35	<p>Q: If 1 is yes, then provide list of use cases.</p> <p>C: Not Applicable</p>
36	<p>Q: Does the SDN controller have their plugins certified with OpenStack to achieve the use case functionalities as specified from point no. 2 to no.8 as specified in “Network Option” of the RFP (LOT 1).</p> <p>C: Fwaas , Lbaas , Vpnaas are some services which should be populated from network. So above related plugins/drivers and ML2 plugin should be certified for proposed platform.</p>
37	<p>Q: Request to provide complete list of Use cases for SDN implementation.</p> <p>C: Please refer <b>Annex-01</b>.</p>

Cloud Management Platform (CMP) : Page no. 63

38	<p>Q: Apache Mesosphere doesn't have Open API's exposed for integration with Industry leading CMP's., nor they have a certification initiative for CMP ecosystem. Hence request to either remove this clause “Support for integration of Apache Mesos End points” from Compliance of CMP or make it Optional.</p> <p>C: Compliance is removed. <b>Refer the Addendum-01</b>.</p>
39	<p>Q: The RFP doesn't lists the CMP Use Cases for implementation. Request to provide the list of Use Cases (E.g., Automated Provisioning Workflow of an VM Instance), so that implementation efforts and implementation time lines can be arrived at.</p> <p>C: <b>Refer the Annex-01</b>.</p>

Billing / Invoicing : Page no. 66

40	<p>Q: Does the bidder needs to quote for 3rd party Billing Software?</p> <p>C: Bidder's responsibility, employer requires comprehensive billing mechanism as per the stipulated specifications.</p>
41	<p>Q: Request to include: The proposed Billing software should be certified with OpenStack</p> <p>C: Included. <b>Refer the Addendum-01</b>.</p>

Infrastructure Monitoring, Reporting and Alerts: Section 3.6, Page 67

42	<p>Q: Does the bidder needs to quote for 3rd party Infrastructure Monitoring, Reporting and Alert management software?</p> <p>C: Bidder's responsibility</p>
43	<p>Q: Do you expect Infrastructure monitoring utility to monitor applications as well as network components?</p> <p>C: OpenStack and related applications, VMs, Containers and network components need to be monitored by monitoring/alert utilities.</p>
44	<p>Q: What are the applications which are to be monitored here? What are the frameworks of the apps / metrics &amp; granularity of the monitoring data w.r.t app monitoring</p> <p>C: This is out of scope</p>
45	<p>Q:Are there application monitoring agents to be integrated with CMP platform or monitoring utilities?</p> <p>C: This would be required in future, but not at the beginning.</p>
<p>Schedule Of Deliverable : Section 4 , Page 68</p>	
46	<p>Q: Request clarification on the implementation time lines, how the period of 40 days is arrived at?</p> <p>C: Based on use cases and our requirements</p>
47	<p>The RFP doesn't detail out --</p> <p>Q (a): The Implementation Use Cases for OpenStack &amp; CMP.</p> <p>C: Use cases for Openstack are almost covered at the beginning of the Scope of Services section and in the compliance sheet under each section (network option, backup option, storage option). <b>Refer the Annex-01 for further use cases.</b></p> <p>Q(b): Integration requirements with FC / SD Storage</p> <p>C: All controller nodes (5) and compute nodes (16) need to be integrated to FC/SSD SAN</p> <p>Q(c): UAT Criteria's</p> <p>C: Typical Production Acceptance Testing to be carried out and criteria to be finalized. Refer below for high-level criteria (but not limited to);</p> <ul style="list-style-type: none"> <li>• Create tenants, users, network capabilities and virtual instances.</li> <li>• Install a demo application to verify the functionality of the virtual instance.</li> <li>• High availability.</li> <li>• Testing of Solution to be performed based on the use cases designed under discussion phase.</li> <li>• Reporting</li> </ul>
48	<p>Q: Request to provide the list of Use cases for OpenStack &amp; CMP Implementation and UAT Criteria , which will help in right effort estimation for Implementation and time lines.</p> <p>C: <b>Refer the Annex-01</b></p>

Q: Question, C: Clarification

**Please note and comply with the above clarifications and amendments.**

***Gamini Karunaratne***

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**Annex-01**  
**Use Cases 'including but not limited to'**

**OpenStack Use Cases**

**1. Architecture Validation Phase**

- Review on Hardware and Network Planning.
- Review on Storage Options.
- Review on HA Options.
- Review on BackUp Options.
- Once options are reviewed and finalized, freeze on reference architecture diagram for implementation.

**2. Design phase and Deliverables**

- Delivery for this phase includes the HLD document / Solution Architecture document with Pre-Site check-list.

**3. Deployment Phase**

- Deploying a OpenStack Platform based on architecture.
- On-site environment validation.
- Installing OpenStack based platform and related components.
- Setup SDN and Network configuration using Neutron networking.
- Deploying Three Node Highly available (HA) Controller Hosts.
- Deploying compute nodes.
- Deploying Storage nodes and configure storage cluster based on architecture.
- Deploying Instance HA by configuring compute hosts according to the architecture.
- Configure FC/SSD storage.

**4. Testing/Validation/UAT**

- Create projects, users, network capabilities and virtual instances.
- Install a demo application to verify the functioning of the virtual instance.
- Test high availability despite node failure.
- Testing of Solution to be performed based on the use cases designed under discussion phase.
- Once dry run is successfully completed, assist in Production Roll-out of Solution.

## 5. **Documentation/Knowledge Transfer**

- Customer Site Specific Engagement Journal.
- Completed checklist and HLD design Document.
- knowledge transfer to the team as decided by ICTA.

## **CMP Use Cases**

### 1. **Information Gathering Discussions**

- Infrastructure discovery and project objectives definition.
- Define CMP deployment design for Cloud infrastructure.
- Define classification taxonomy specific to Cloud environment.
- Define requirements for custom reports and dashboards specific to Cloud environment.
- Define user roles.
- Define infrastructure integration.
- Define knowledge transfer requirements.
- Agree on key milestones for the project.

### 2. **Configuration of CMP Infrastructure**

- Import CMP for proposed Cloud infrastructure.
- Implementation of CMP based on design in Item 1.

### 3. **Design and Implement Cloud project Classification Taxonomy for CMP**

- Define Tag Categories, including Tags for each Category.
- Create and populate Tag Categories and Tags.
- Define auto classification requirements to drive policy creation so that resources classification can be automated.
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### 4. **Define and implement Cloud project User Roles for CMP**

- Define CMP Roles required to support CMP access control requirements designed in item 1.

### 5. **Implement Cloud project Infrastructure Integration's**

### 6. **Define and Implement Cloud project Self-Service User Provisioning and Operations**

- Creation of Self-Service user provisioning process.
- Creation of Self-Service component.
- Define and configure email notification process for Cloud Vms.

### 7. **Define, Create and Test Custom Reporting for CMP**

- Gather and define Cloud specific reporting requirements.
- Build custom reports based on Cloud reporting specification.
- Implement tested and accepted reports in production CMP environment.



8. **Define, Create and Test CMP Alerts**
  - Gather and define Cloud specific alerting requirements.
  - Build up SMTP alerts based on event triggered policies as defined.
  - Implement accepted alerts in Cloud production environment.
9. **User Acceptance Tests**
  - User Acceptance Tests for Cloud reports (Item 7).
  - User Acceptance Tests for alerts (Item 8).
10. **Knowledge Transfer Workshop**
  - Knowledge Transfer of CMP.

### **SDN Use Cases**

1. Implement on-demand services.
2. IaaS and Single pane of glass.
3. Provide policy-based security and traffic isolation.