GREATER**LONDON**AUTHORITY

REQUEST FOR DIRECTOR DECISION – DD1155

Title: Additional IT data replication appliance

Executive Summary:

Approval is sought to conduct a procurement exercise to purchase an additional data replication appliance. The additional appliance will be deployed in the TfL data centre that is used by the GLA as a disaster recovery standby site. The GLA already has 3 such appliances: two in City Hall and one in the disaster recovery centre. An additional device will further improve system reliability and disaster recovery capabilities.

The GLA is increasingly using the TfL data centre as a private Cloud solution, providing the benefits of Cloud technology combined with the control and security of GLA data. Improved reliability of the link with TfL will allow the GLA to gain additional business benefits from this relationship.

The procurement is for hardware only and the cost will not exceed £85,000.

Decision:

That the Director approves:

- Allocation of a total of £85,000 from the Technology Group 2013/14 capital and revenue budgets, including a revenue contribution of no more than £6,000, for the purchase of an additional Falconstor data replication appliance with unlimited storage

- Ongoing revenue maintenance expenditure of £10,000 per annum for the appliance.

AUTHORISING DIRECTOR

I have reviewed the request and am satisfied it is correct and consistent with the Mayor's plans and priorities.
It has my approval.

Name: Martin Clarke **Position:** Executive Director (Resources)

Signature: M. J. Clarke **Date:** 14.2.14

PART I - NON-CONFIDENTIAL FACTS AND ADVICE

Decision required – supporting report

1. Introduction and background

DD1155 Additional IT Data Replication Appliance (this DD) should be read in conjunction with DD1152 Server Upgrade in the GLA IT Disaster Recovery Centre. Both DDs relate to upgrades to GLA disaster recovery facilities.

The two requirements (additional replication appliance and server upgrades) are two separate pieces of work which could be approved or rejected individually. In addition, these two pieces of work will involve two separate procurements and contracts with two separate suppliers since the two pieces of work are technically quite distinct from one another. There is not one supplier who would be able to meet both requirements. For these reasons, the two requirements are presented as separate DDs even though they both relate to upgrades to the GLA disaster recovery facilities.

For clarity, MD1120 Additional IT Storage was approved in January 2013 and provided for the purchase of additional disc storage some of which was used in the GLA disaster recovery centre. The primary reason for the requirement for additional storage at that time was because the LDA and part of the HCA had moved to City Hall resulting in greatly increased IT storage requirements.

The GLA currently operates an IT disaster recovery system that copies data in (close to) real-time between City Hall and a TfL data centre located in the south of England. In the case of City Hall being unavailable, IT services can be restored in the TfL data centre. GLA staff can then continue to use these IT systems through remote access. When City Hall again becomes available then data from the TfL data centre is copied back to City Hall and normal IT services can be restored. This system was brought into use before the 2012 London Olympics and has been operating successfully since that time.

Advanced technology is required in order to capture in real time changes to the live GLA servers (data reads and writes), transfer these at high-speed to the TfL data centre, and store them in a format that can be restored quickly. Following a competitive procurement process that took place in 2011 (MD753), the GLA selected Falconstor, which is one of the market-leading suppliers of data replications solutions. Falconstor products are commonly described as 'data replication appliances'. This means that the Falconstor technology is available as a stand-alone hardware element with in-built software capabilities.

Any errors with the Falconstor replication technology have the potential to stop the operation of the entire GLA IT system. In the early days when the GLA first started using Falconstor there were indeed a couple of problems that had a building-wide impact.

For this reason, the GLA has deployed 2 Falconstor appliances in City Hall so that if one fails the standby can quickly be brought in to use. Currently there is only 1 Falconstor appliance deployed in the TfL data centre because this is the standby site.

The GLA has made a large investment in linking to, and using, the TfL data centre. City Hall is linked to the TfL data centre across the TfL high-speed, London-wide network. The facilities at the TfL data centre are far superior to the facilities of the computer room in City Hall.

Increasingly, the GLA is finding additional business benefits in using the TfL data centre. As an example, at times of high usage the primary location of the GLA website (www.london.gov.uk) is moved to the TfL data centre since this provides superior performance and reliability. Currently, only a temporary read-only copy of the website is deployed to the TfL data centre, meaning that changes cannot be made to the website during periods of high usage. Were the single FalconStor replication appliance in the TfL data centre to fail whilst

the website is live in the data centre then the website would immediately crash and it would be difficult and time-consuming to restore it into use again.

If GLA disaster recovery plans are activated then GLA staff will start working via remote access to the servers in the TfL data centre. However, in this scenario, if the single FalconStor single replication appliance were to fail then all GLA staff would immediately lose system access.

The GLA wishes to start using the TfL data centre as a private Cloud computing solution. The GLA can achieve all of the benefits of Cloud technology (provided by the TfL data centre) whilst maintaining strong control and security over our data and systems. This is particularly relevant in the light of recent news reports about agencies accessing private data that is held in the public Cloud. As an example, the GLA wishes ultimately to move email and Blackberry services to the TfL data centre which is superior to the facilities in City Hall. This will greatly improve system performance and resilience.

An additional benefit of such an arrangement is that services can then quickly and easily be moved back and forth between City Hall and the TfL data centre, eliminating the need for planned system downtime. Planned downtime may be required for a number of reasons such as server maintenance or upgrades, and also maintenance work to City Hall facilities, including the electrical power supply. It is becoming increasingly difficult to schedule planned downtime. This is partly because the news and media as a whole is operating round the clock and also reacting very quickly to news events. It is also because the GLA has taken on more of a role of direct service provision which is more likely to require reactive, out of hours work. Finally, the GLA is providing IT as a shared service for MOPAC and MOPAC is particularly sensitive to fast breaking events.

Whilst there is a single point of failure in the TfL data centre (the single FalconStor appliance) then there will be a risk of complete and immediate system failure which would be complex and time-consuming to restore.

For this reason, approval is sought to carry out a competitive procurement to purchase an additional Falconstor replication device that is equivalent to the current three Falconstor devices, so that there will be two devices in City Hall and two devices in the TfL data centre.

The cost of the additional device will not exceed £85,000 only for the hardware. The Technology Group has budget allocated within approved Capital budget to meet these costs.

The GLA already has in place a support and maintenance agreement for the existing three Falconstor appliances. It is imperative that there is only one supplier who has full responsibility and accountability for the maintenance and support of the entire data replication solution. The fourth Falconstor appliance will be commissioned by the existing maintenance supplier and added to the existing maintenance contract.

The initial procurement is for hardware only. If the procurement were to be for hardware plus implementation and support then it would be necessary to single source the entire procurement with the current provider of support and maintenance services. By conducting a procurement for hardware only we are able to invite multiple suppliers to bid.

2. Objectives and expected outcomes

A competitive procurement is carried out for the provision and purchase of the additional Falconstar replication appliance.

3. Other considerations

Deploying a pair of Falconstor replication devices in both City Hall and at the TfL data centre will further reduce any risk of disruption to data replication and business continuity services. In addition, it will enable to the GLA to gain additional business benefits from the use of the TfL data centre as a private Cloud services provider.

The proposal relates to systems that are well-established and no corporate risks are expected to arise from this work.

The GLA Corporate Business Plan for 2013/14 includes 3 key priorities for the Technology Group, one of which is to:

- Implement measures to strengthen the security and resilience of IT services at City Hall.

This approval supports this corporate priority.

4. Financial comments

4.1 Purchase of this hardware is capital expenditure and will be met from the existing Technology Group capital budget. Any ongoing maintenance or support of the system is a revenue cost and such costs cannot be capitalised.

4.2 At least the first £79,000 of this purchase can be covered from the capital budget. If this amount is exceeded, and the full amount requested in DD1152 is also needed, the additional amount will be covered by a revenue contribution to capital spend.

4.3 This device will require ongoing maintenance expenditure of £10,000 per annum to be met from the existing TG revenue budget.

5 Legal comments

5.1 Sections 1 to 4 of this report indicate that:

5.1.1 the decision requested of the Director (in accordance with the GLA's Contracts and Funding Code) falls within the GLA's statutory powers to do such things considered to further or which are facilitative of, conducive or incidental to the discharge of its general functions; and

5.1.2 in formulating the proposals in respect of which a decision is sought officers have complied with the GLA's related statutory duties to:

- pay due regard to the principle that there should be equality of opportunity for all people;
- consider how the proposals will promote the improvement of health of persons, health inequalities between persons and to contribute towards the achievement of sustainable development in the United Kingdom; and
- consult with appropriate bodies.

5.2 The supplies required must be procured by Transport for London Procurement who will determine the detail of the procurement strategy to be adopted in accordance with the GLA's Contract and Funding Code.

Officers must ensure that appropriate contract documentation is put in place and executed by the successful bidder and the GLA before the commencement of the supplies.

6. Planned delivery approach and next steps

This approval relates to the procurement and delivery of hardware. Commissioning the hardware and maintenance will be subject to a separate approval and project plan.

Appendices and supporting papers: None

Public access to information
Information in this form (Part 1) is subject to the Freedom of Information Act 2000 (FOI Act) and will be made available on the GLA website within one working day of approval.

If immediate publication risks compromising the implementation of the decision (for example, to complete a procurement process), it can be deferred until a specific date. Deferral periods should be kept to the shortest length strictly necessary.

Note: This form (Part 1) will either be published within one working day after approval or on the defer date.

Part 1 Deferral:

Is the publication of Part 1 of this approval to be deferred? YES
If YES, for what reason:
In order to avoid that potential bidders can see our estimated budget figures. This would put the GLA at a disadvantage in the competitive procurement process.

Until what date: until the procurement process is complete. Estimated date is 31 March 2014

Part 2 Confidentiality: Only the facts or advice considered to be exempt from disclosure under the FOI Act should be in the separate Part 2 form, together with the legal rationale for non-publication.

Is there a part 2 form – NO

ORIGINATING OFFICER DECLARATION:	Drafting officer to confirm the following (✓)
Drafting officer: Graham Lane has drafted this report in accordance with GLA procedures and confirms that:	✓
Assistant Director/Head of Service: David Munn has reviewed the documentation and is satisfied for it to be referred to the Sponsoring Director for approval.	✓
Financial and Legal advice: The Finance and Legal teams have commented on this proposal, and this decision reflects their comments.	✓

EXECUTIVE DIRECTOR, RESOURCES:

I confirm that financial and legal implications have been appropriately considered in the preparation of this report.

Signature M. J. Gallo **Date** 14. 2. 14