

Committee(s)	Dated:
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Report of: The Chamberlain	For Information
Report author: Matt Gosden	

IT Disaster Recovery

Introduction

Business Continuity (BC) and Disaster Recovery (DR) activities are co-ordinated by the Town Clerk's department with initiatives delivered through the Resilience Steering Group - a pan-department group across the City of London and the City of London Police.

As well people and processes, BC and DR activities are often interlinked, and both have a heavy reliance on technology.

This paper provides a brief overview of the IT DR provision, currently in place; supported by the IT Team and their partners.

The paper describes three specific areas:

1. Current approach to Business Continuity and specifically Disaster Recovery plans and activities.
2. An overview of the DR testing which takes place.
3. DR Risks and opportunities.

Recommendations

Members are asked to note this report

Main Report

Current IT DR provision

The cloud, dual sites, resilience and redundancy - what we have in place:

1. Broadly speaking, the Corporation's data and apps are all hosted in the cloud as part of Office365 and the Agilisys IaaS Datacentres.
2. IT services are provided to the Guildhall through dual resilient BT MPLS WAN links by way of two (active, active; i.e. automated to switch to the alternative link if one fails) routers, to two datacentres, one in Welwyn Garden City and one in Powergate. A DR procedure, as well as the process to invoke a disaster recovery response is in place.
3. Previous tests have been conducted and any errors or failings have been documented and plans improved. The core infrastructure has been upgraded to remove previous single points of failure and diverse links for key connectivity are in place.

Backup as a Service (BaaS)

4. Digital backups taken each evening, with additional backups taken by tape drive and located offsite.
5. Internet service is provided by BT directly to Guildhall and additionally to Powergate, as a resilient backup internet service.
6. Once a DR is invoked, those services that are part of the Resilient IAAS service, will failover to their second location (Welwyn Garden City or Powergate). The remaining services that are part of the Standard IAAS service and located in the location that experiences disruption, will be rebuilt in the second location using hardware acquired at the second location and restored by backups brought across from the Agilisys Hammersmith site.

Testing

IT Disaster Recovery at the Corporation is tested three ways,

7. Annually, through a jointly co-ordinated formal test, based on a given risk profile and a set of "real world" scenarios, that will verify the infrastructure, the business applications being tested and access to them from different locations using different means.
8. Annually, through a number (19) of smaller regularly scheduled tests, conducted by IAAS, from a list of scenario-led tests of components.
9. Periodically following a major change or upgrade, specific application tests for core or complex applications, such as Oracle. These include application availability and data loss scenarios.

10. It should be noted that although these tests will include shutting down power, services or connections, these are simulated and controlled tests to reduce the impact to the business.

NB: Business teams are informed that these tests are taking place in advance.

Planned DR tests for 2019/2020

11. The annual DR test is planned for May 2019, to test the following scenarios. Based on a primary risk of loss of power or connectivity to a specific, key local location. (Main Data room in Guildhall).

12. Although the resulting outcomes or technical capabilities during each scenario are generally understood, it is essential that these tests highlight weaknesses in the people, processes and technology. These are subsequently added to a lessons learned process and added to the IT Division risk register or follow up actions where necessary to provide assurance to the Corporation that business will continue in the event of an incident.

13. The May 19 test will include the following:

- **Power:** Loss of power to the UPS for a key data room in Guildhall, to simulate loss of power to a critical comms room within Guildhall.
- **Network:** Loss of a link between Guildhall and IAAS – Route will then be via the second link.
- **Internet:** Loss of internet access between Guildhall and the Internet service being provided by BT – Route will then be via Powergate.
- **Business Applications:** During the tests, the following business applications will be tested, for login access to the following applications; CBIS, iTrent, Paris and Mosaic.
- **Connectivity and access to services:** During the tests, the ability to work via Core telephony (Guildhall), via a mobile device or laptop from an external location to verify use of the following Office 365 applications; SharePoint (file store and intranet), Email, Skype, Teams and OneDrive.

DR risks and opportunities

Primary risks:

14. Not all critical business applications are fully resilient end-to-end or supported by architecture that ensures availability or recovery to the degree the business would require.

15. Future major changes and upgrades to the infrastructure, whilst improving the technology, needs business appropriate testing to prove the resilience in the design.

16. The IT DR tests only test a specific set of scenarios, but don't generally include the business to test their processes, responses and third-party providers.

Opportunities:

17. An annual, business led, Business Continuity and Disaster Recovery Test, should be undertaken to test people, process, products and providers, to test the end to end resilient functionality of critical business applications and infrastructure, in the event of a major disruptive event. This should be co-ordinated by the Town Clerk's resilience team with support from relevant corporate functions including IT.

18. Scenario based paper exercises (to reduce cost and disruption) should be conducted frequently, to ensure operational readiness and recovery documentation is always at hand, in the event of a given scenario being realised. These should include non-IT personnel and should be co-ordinated between the Town Clerks Resilience team and IT and their partners.

19. Following the recent work led by the Business Continuity team completing business impact assessments, IT will now follow up to pick up agreement to the opportunities detailed above with Chief Officers.

Matt Gosden
Deputy IT Director
T: 07714 746996
E: Matt.Gosden@cityoflondon.gov.uk