

NORTH LINCOLNSHIRE COUNCIL

POLICY AND FINANCE CABINET MEMBER

IT BUSINESS CONTINUITY & DISASTER RECOVERY UPDATE

1. OBJECT AND KEY POINTS IN THIS REPORT

1.1 To provide an update on enhancements to the council's IT business continuity and disaster recovery arrangements.

- The loss of business critical systems and key data is recognised as a strategic risk
- A project to further enhance business continuity and disaster recovery capabilities to help mitigate these risks is underway.

2. BACKGROUND INFORMATION

2.1 The council manages two data centres; one located at the Civic Centre in Scunthorpe and one at Hewson House in Brigg. Loss of key data and major IT outages are recognised as strategic risks.

2.2 Historically servers were hosted from specific physical hardware platforms where one application utilised a dedicated server or servers. Over the last few years the council has been gradually moving towards a "virtual" server environment – multiple applications running on shared servers and hardware.

2.3 Our strategy is to migrate all servers to the virtual environment where this is possible. Currently we have 144 physical servers and 22 virtual servers.

2.4 Benefits of using virtual servers include:

- reduced data centre footprint – rack space etc
- reduced power consumption and carbon footprint (Green IT)
- increased business continuity capabilities
- increased disaster recovery options
- offsite replication
- flexible resource allocation and sharing
- reduction in hardware maintenance and associated costs

2.5 Disk storage is attached to our server infrastructure. This is where server and application data is held. In 2011 we implemented storage replication between the two data centres. This means that a copy of any information on the storage at Hewson House data centre is replicated off site at the Civic Centre data centre in near real-time. This improved disaster recovery times in the event of a loss of one of the data centres.

- 2.6 Although storage replication is in place, loss of the server infrastructure would still mean that significant disruption would occur if the Hewson House data centre suffered an outage for any reason such as flood, fire or major power failure.
- 2.7 A project is now underway to address this risk through replication of the virtual servers between the two data centres. This will provide an ability to restore server infrastructure in minutes as opposed to hours/days in the event of a significant data centre failure.
- 2.8 Some of the benefits of server replication are as follows:
- Significantly reduces the cost of the disaster recovery contract: Being able to replicate the virtual server infrastructure at a second site will reduce the specification for external disaster recovery support.
 - Improved recovery times: Virtual environments will be made available much quicker as there will be no need to build these servers from scratch.
 - Centralised recovery plans: We will have the ability to create and manage recovery plans; in circumstances where applications require servers to boot in a specific order we can pre-define the boot sequence of virtual servers for automated recovery. We can also identify high priority servers to recover first and in a defined order.
 - Automated disaster recovery failover: Initiate recovery plan execution between Hewson House and Civic Centre with a single click of a button ensuring the fastest possible recovery time.
 - Planned migration and disaster avoidance: If the disruption is not instant we can invoke a managed shut down of protected virtual servers at the original site, this will allow all data and system state information to be replicated to ensure full continuation of service at the secondary site
 - Non-disruptive testing: We can activate testing of recovery plans without having any impact on the live environment, using storage snapshot we can perform recovery tests without interrupting replication. All results of test and failover execution can be stored, viewed and exported into reports.
 - Data centre maintenance: Planned maintenance such as power testing, air-conditioning repairs, fire suppression testing etc can be carried out and service can failover to the Civic Centre data centre to assist with these maintenance requirements without causing disruption.
- 2.9 A number of specific project work streams require completion to deliver the project. These are ongoing and are expected to be complete in September. Full site-to-site replication is expected to be fully implemented by October 2015.

3. OPTIONS FOR CONSIDERATION

- 3.1 There are no options for consideration as this report is for information only.

4. ANALYSIS OF OPTIONS

- 4.1 There are no options for consideration as this report is for information only.

5. RESOURCE IMPLICATIONS (FINANCIAL, STAFFING, PROPERTY, IT)

- 5.1 Enhancements to the data centres are funded through the capital programme. £50,000 has been made available through the capital programme in 2015/16 to support site to site replication.

6. OUTCOMES OF INTEGRATED IMPACT ASSESSMENT (IF APPLICABLE)

- 6.1 Not applicable

7. OUTCOMES OF CONSULTATION AND CONFLICTS OF INTERESTS DECLARED

- 7.1 Not applicable

8. RECOMMENDATIONS

- 8.1 That the outcomes of the project to implement site to site replication across the council's data centres together with the associated timescales are noted.

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