

AGENDA MANAGEMENT SHEET

Name of Committee Resources Performance & Development Overview & Scrutiny Committee

Date of Committee 11 November 2008

Report Title ICT Risks & Business Continuity

Summary Comment on the business continuity arrangements associated with the ICT risks reported in this document.

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Would the recommended decision be contrary to the Budget and Policy Framework? No.

Background papers None

CONSULTATION ALREADY UNDERTAKEN:-

Details to be specified

- Other Committees
- Local Member(s) Cllr Booth, Cllr Atkinson, Cllr Haynes
- Other Elected Members Cllr Cockburn
- Cabinet Member
- Chief Executive
- Legal Jane Pollard
- Finance
- Other Chief Officers Dave Clarke, Resources Strategic Director
- District Councils
- Health Authority
- Police
- Other Bodies/Individuals

FINAL DECISION

SUGGESTED NEXT STEPS:

Details to be specified

Further consideration by
this Committee

To Council

To Cabinet

To an O & S Committee

To an Area Committee

Further Consultation

Executive Summary

In response to some recent ICT network issues, this paper presents the current arrangements to deal with the risks associated with significant loss of ICT Services. It outlines both ICT activities to support service business continuity plans, and to mitigate risks associated with general ICT failure.

Resources Performance & Development Overview & Scrutiny Committee are invited to comment on the business continuity arrangements described and to propose any areas where they would like to see further arrangements considered.

Agenda No

Resources Performance & Development Overview & Scrutiny Committee - 11 November 2008

ICT Risks & Business Continuity

Report of the Head of ICT, Resources

Recommendation

Resources Performance & Development Overview & Scrutiny Committee is asked to:-

1. Comment on the business continuity arrangements associated with the ICT risks reported in this document.
2. To propose any areas where they would like to see further arrangements considered and developed.

1. Introduction

This paper has been requested by the Chair of the Overview & Scrutiny Committee in response to recent ICT network issues. It presents the current arrangements to deal with the risks associated with significant loss of ICT Services. It will cover:-

- Potential areas of ICT risk and mitigating actions in place.
- Business Continuity arrangements in place in the event of a major ICT loss of service.

Although not the primary purpose of this document this report will also provide:-

- The background to the recent ICT network issue as an example of potential issues associated with the loss of ICT including the latest position of this incident.
- A description of the potential business impact of ICT issues using the recent incident as an example.

2. Background to Recent ICT Network Issue

- 2.1 Over the period late May to June we suffered a number of separate but related ICT issues.
 - On the 26th, 27th and 28th May issues associated with the NTL/Telewest supplied element of our network meant loss of service to customers from

08:30 - 16:30 on both the 26th/27th May and for part of the morning of the 28th May. These issues affected the sites connected by the NTL network which was approximately 30% of sites. For a short period on the 26th and 27th other remote sites may have been impacted until the NTL service was removed by ICT technical staff.

- On Friday 6th June there was a brief recurrence of the network issue affecting the NTL network sites for up to one hour early in the afternoon.
- On Thursday 19th June an upgrade to the two key network components in Shire Hall as part of the work to resolve an outstanding issues with the Kings House service, corrupted these two main corporate switches. This meant no service availability for the main Warwickshire County Council network from 08:30 until 12:15hrs.
- On 23rd and 24th June there was a third recurrence of the NTL Network related problem, again just affecting the users of the NTL network. This meant loss of service for these sites between 15:30hrs on Monday 23rd until 16:00 hrs on 24th. Some sites in the Atherstone and Warwick area were restored from 12:30hrs on 24th as part of the investigation work.

- 2.2 A full report on these incidents was provided to the Leaders Liaison Group in July 2008.
- 2.3 These incidents followed a period of stability where we had enjoyed significant improvements in ICT service availability. These improvements were reflected in our externally benchmarked customer satisfaction survey results just prior to the incidents. Our scores have risen for a third consecutive year and Warwickshire County Council was the top performing of the twelve County Councils that participate in 17/18 customer satisfaction areas with the other question ranked number two. Our score for overall opinion of the ICT service ranked us second compared with the 58 other top tier Authorities that participate.
- 2.4 The latest position of the network issue is that the problem recurred in early October. Fortunately the work since May meant that the issue was restricted to the NTL network sites alone. However, once again all NTL sites were impacted and suffered almost 24 hours of non availability. This included 30 schools, and 40 other WCC buildings, and also for several hours the District Council Contact Centres. Our main sites were not affected at this time.
- 2.5 Also, our investigative work prior to and our work with NTL at the time of the recurrence means that we believe that we have now been able to trace the possible cause of the recent incidents. It is believed that some of the NTL equipment was unable to cope with some of the business services we were running over the network. They have upgraded their equipment and as an additional precaution, Warwickshire County Council have removed our Patapsco voice facilities, which allowed us to provide telephone services to some sites over the data network, until network stability has been clearly demonstrated and any potential issues with these have been further

investigated. We are currently investigating service credits from NTL associated with these incidents.

3. Potential Business Impact of the Loss of ICT Service

3.1 ICT is now a critical element of our service delivery arrangements. The impact of the loss of ICT service can be severe, although the precise severity will depend on the element of the ICT service lost, the criticality of the service provided, and the dependence of elements of the service on their ICT facilities. The recent incidents have demonstrated some of the potential business impact that the Authority can suffer as a result of losing elements of its ICT service.

- The NTL/Telewest network related issues affected approximately 40 buildings and 80 schools. There was a loss of their Wide Area Network service and therefore use of their central systems for almost two days in May and one day in June. Areas such as Warwickshire County Council Registration Services and some District Council Contact Centres were also impacted. Fortunately the May incident occurred during half term, so the impact on schools was reduced but during the later issues the loss of service can impact on the ability to deliver lessons if the teacher is looking to use Internet facilities etc.
- Telephone services were also affected for some sites, primarily Montague Road services due to the use of a form of Voice over IP technology (VOIP), where the data network is used to carry telephone call traffic. This can impact the ability of the public to contact us.
- For the incident on the 19th June, the half day loss of service affected nearly all network ICT facilities for almost all staff. Staff were not able to connect to the network, therefore unable to use any systems including LOTUS Notes, although emails were still received. This impacted front line Warwickshire services such as the Customer Service Centre, although they could still receive calls. As a demonstration of how the impact can vary, due to the nature of the problem on this occasion the schools systems were available, and District Council Contact Centres were also unaffected.

3.2 On all occasions ICT actions were taken to minimise the period for which the ICT loss was suffered. This included extensive out of hours working by internal staff and use of external partners on direct problem resolution. Also as part of the action taken we were often able to reduce the number of sites and hence number of ICT users affected by the loss of service. In addition to this, particularly in the non schools arena we were able to take Business Continuity style action to mitigate against the problems by:-

- Re-directing critical public telephone numbers to personal mobiles to enable us to receive calls

- Supplying laptops with mobile working facilities to provide alternative network access to their systems for key customer facing sites. e.g. the Registration Services and Home Care Teams
- Assisting staff to work from other locations including alternative County buildings and also from home, by providing additional access to our remote access service.
- Moving data to customers to allow them to continue to work where they were unable to access their information via the network facilities.
- In particular, in Kings House we employed a range of these services to provide alternative arrangements while they continued to suffer intermittent problems. The largest example of this is that the Customer Service Centre was moved to work from Shire Hall, although this did introduce logistics and staffing issues for the service.

Unfortunately, in the Schools environment the current design of the facilities means that there are no such business continuity actions that can be taken.

4. Business Continuity Arrangements Associated with the Loss of ICT Service

- 4.1 In line with the County Council's approach to business continuity we have been developing our plans to support the corporate policy and strategy and service continuity plans now in place. It should be noted that Business Continuity is not an ICT issue and we applaud the recognition of this fact in the new corporate approach. An example of this is that a service could lose access to its ICT and information facilities through non ICT factors. e.g. loss of building through flooding, fire, introduction of an exclusion zone, significant loss of key staff within a service.

However, there are two elements to the overall Business Continuity that ICT can contribute to;

1. ICT activities to support specific service Business Continuity Plans.
2. ICT activities to mitigate the risks associated with the general ICT facilities.

5. ICT activities to support specific Service Business Continuity Plans

- 5.1 Warwickshire County Council has identified fourteen priority areas for Business Continuity and ICT have been working with Simone Wray, the Strategic Risk Manager to put in place a specific arrangement to support these.

Examples of the arrangements we have put in place or strengthened over the last twelve months include:-

- For thirteen of the fourteen priorities areas we have agreed a time for recovery of their priority systems at a dedicated disaster recovery site we have reserved at Kings House. These agreed timescales vary from 2 days to a month. The one service currently outstanding is the use of the Carefirst system for Adult and Children Services, which is requesting immediate recovery, a facility that up until now has not been catered for.
- To support the Business Continuity process we have a contract with a third party disaster recovery supplier, ICM, who will provide us equipment on which we could recover our infrastructure, and run the priority systems in the event that we are unable to use/repair the equipment that normally provides the service.
- It should be noted that the plan requires that in order for services to use these systems our network facilities would need to be operational, or else the staff would need to move to the Kings House facilities, and in the event of a major Disaster Recovery situation we may need to relocate other staff from Kings House to accommodate the key service staff.
- HR, Payroll, Notes email, Notes systems, and our remote access Citrix systems for initially up to 50 users are also covered by this arrangement.
- We also have a disaster 'spike' arrangement agreed for our remote access Citrix facilities that allows us to utilise a hundred extra licences for 90 days.

5.2 Whilst it is necessary for ICT to review its own continuity arrangements and ensure it can support these priority services, it is also necessary for the priority services to consider and plan workarounds as part of their service continuity plans to enable them to continue delivery of key activities in the event that ICT is not available. Whilst the emphasis of this paper is on availability of ICT as part of normal working arrangements, priority services need to have resilience in the event that ICT is not available as a result of a cause outside of their own control.

5.3 All Warwickshire County Council services should be considering their Business Continuity position. Those services that have not been identified as a Warwickshire County Council priority should consider how they would operate if ICT Services were not available for at least three days. It should be noted that ICT are happy to put in place additional ICT Business Continuity arrangements for the non priority services wherever possible, however, only if these can be delivered without jeopardising the key agreed corporate priorities.

6. ICT Business Continuity Activities to mitigate the risks associated with general ICT Failure

6.1 The second area that ICT can contribute to in general business continuity is by taking actions to safeguard and minimise the impact of ICT issues within the ICT infrastructure that it has responsibility for. There will always be a balance of risk management arrangements and costs, as while fuller business continuity arrangements could be put in place we cannot afford to aim for zero

risk even if it was achievable. The following are a list of the actions that we are currently taking to improve ICT Service availability and business continuity.

6.2 Designing facilities to reduce the risk of service loss, this is normally through the introduction of resilient facilities that will survive the failure of one element of the system. Examples include:-

- Dual network links, so that if one connection fails there is an alternative connection route. It should be noted that we have only funded these for the central elements of the network used by the majority of users or key sites such as Kings House. It is also worth being aware that the NTL facilities that have suffered the recent problems were introduced to provide this facility and indeed did so successfully for two years.
- Dual Network Switches - these are utilised so that in the event of failure of the first switch a second or third can operate and continue to provide the service.
- Multiple Servers - e.g. for Lotus Notes and for the remote access Citrix system there are two or more Servers so that in the event that one of the service fails, others will continue to operate although possibly at a reduced performance. Similar facilities are to be introduced for the HR and Payroll system.
- Storage Area Network (SAN) Facilities are used to central manage the data used by our staff and systems. This facility allows us to have data replication across different sites, and the general arrangements can speed up recovery in a major disaster recover situation.
- Virtualising applications to run on 'Blade' servers. This reduces the number of computers that need to be recovered, and as a result speeds up the recovery process.

6.3 ICT Infrastructure Replacement Fund; As part of the introduction of the Unit Charge approach in the early part of the decade, we have created an annual charge to contribute to updates of the key elements of the infrastructure on a rolling basis. To date, this has been able to fund the replacement of key elements by managing funds for replacement over a typically four year period.

6.4 A limited 'out of hours' support arrangement was introduced to monitor the network from 6am up until 10pm to help manage and deal with any issues that occur to reduce the impact on the normal service delivery hours. However, it should be noted that:-

- This is a skeleton team of one or two staff who then call other staff who are paid to be 'on -call' and receive additional payment if called out. This 'on-call' arrangement is purely voluntary and is only able to operate due to the excellent goodwill and dedication shown by the staff on the duty rota. The charges associated with this 'out of hour's duty rota' have not

increased since 2004 and we are now looking to do so subject to the Job Evaluation Phase II process.

- Other than the skeleton team, all our staff are only contracted to help cover them Monday to Friday, 08.30 a.m. to 5.30 p.m. arrangements. Over recent years we have seen expectation increase from staff and Members for ICT Services to be available for almost 24/7 e.g.
 - Customer Service Centre open until 8.00 p.m. and on Saturdays
 - Libraries, open Saturdays and Sundays
 - Emergency Duty Teams require access at all times
 - Elected Members requiring systems both at night and before business in the morning
 - Schools are now also requesting facilities until 9pm in the evening.

To date, any attempt to ask the business to pay for increased support hours has led to a withdrawal of the request for formal facilities so we have continued to seek to deliver the extended day and out of hour's service by the use of resilient design and the heavy use of voluntary out of hours support arrangements discussed above.

This is not unusual in the Local Government arena, and we are assuming that in the current financial climate we will continue to adopt the same approach but this should be recognised when staff expect problems to be resolved out of hours.

- 6.5 Another issue associated with this drift towards a 24/7 service expectation is that it is increasingly difficult to negotiate times for carrying out critical upgrades to the system. Where we have resilient duplicate facilities we can take one element out of service while we upgrade the other. But for the vast majority of our critical facilities an upgrade means a service non availability.

This becomes increasingly difficult to negotiate with the business and ICT staff have are either working at 10:00 p.m. in the evening or 6:00 a.m. in the morning and in the case of some recent major changes, staff worked from 4:00 p.m. on Sunday afternoon, overnight until 6am on Monday morning. This increases the risk to the business as important upgrades are both delayed and staff may be applying important, urgent changes at anti-social times that are only agreed at the last minute.

To mitigate this we plan to introduce some scheduled maintenance downtime every quarter on a Sunday will allow these important changes to be planned and published well in advance.

- 6.6 Our main Computer Room at Shire Hall is 30 years old and is sited below ground level. Whilst this room was fit for purpose when mainframe computers were around - as often the floors could not be adapted to support the necessary equipment associated it is not a room fit for purpose in today's changing IT environment. There are many problems associated with modern IT provision across the basement rooms (CR1, 2, 3 & 4) including the potential of flooding. In July 2007 the major floods did cause us to isolate

computer room 2 due to risk of water ingress and as a result access was lost to our social care systems for the weekend.

The problems of having computer rooms developed over such a period of time means that cabling, fire suppression, access control fall short of the guidelines levels we should have in place - to industry and BS standard requirements but we are hoping that as part of the Shire Hall Redevelopment Plans we will be able to move to a more modern and fit for purpose DataCentre facility. This is raised in the context of ICT risks because as part of this introduction we plan to design in the opportunity to ensure that resilient facilities are replicated across more than one site and reduce the network reliance on single points of failure, and also to protect us against the risk of flood, fire, building exclusion zones.

- 6.7 External Support Contracts are another tool in the armoury to minimise impact of ICT failure is the use of external support contracts in the event of major issues. While we primarily try and utilise internal staff due to the flexibility that it provides to redirect results immediately, and the benefit of having knowledge applied in implementing and managing day to day service rather than just problems, we also have contracts and arrangements in place to escalate problems to our partners e.g. Novell on Local Area Network issues, NTL and Alcatel for Wide Area Network issues in the event of a major issue. We also have maintenance and support contracts with the major suppliers of our key applications.
- 6.8 Finally, we have our own ICT Business Continuity Plan Version 1.3 is about to be published. This identifies the staff and activities that will be involved in providing the Business Continuity activities described in this report.

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October 2008