SOUTH NORTHAMPTONSHIRE COUNCIL

11/31 ICT Capacity Management

FINAL REPORT

June 2011
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categorisation of Recommendations</td>
<td>4</td>
</tr>
<tr>
<td>Definition of Assurance Levels</td>
<td>4</td>
</tr>
<tr>
<td>Executive Summary</td>
<td>5</td>
</tr>
<tr>
<td>Detailed Report</td>
<td>7</td>
</tr>
<tr>
<td>Appendix 1: Terms of Reference</td>
<td>12</td>
</tr>
<tr>
<td>Appendix 2: Implementation Timetable and Response</td>
<td>13</td>
</tr>
<tr>
<td>Appendix 3: Statement of Responsibility</td>
<td>14</td>
</tr>
</tbody>
</table>
CATEGORISATION OF RECOMMENDATIONS

The recommendations in this report have been categorised as follows:

<table>
<thead>
<tr>
<th>Priority</th>
<th>Description</th>
<th>This Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority 1</td>
<td>Major issues that we consider need to be brought to the attention of senior management</td>
<td>0</td>
</tr>
<tr>
<td>Priority 2</td>
<td>Important issues that should be addressed by management in their areas of responsibility</td>
<td>5</td>
</tr>
<tr>
<td>Priority 3</td>
<td>Detailed issues of a minor nature</td>
<td>0</td>
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</table>

DEFINITION OF ASSURANCE LEVELS

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>This Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Assurance</td>
<td>There is a sound system of control designed to achieve the system objectives with controls consistently being applied</td>
<td></td>
</tr>
<tr>
<td>Satisfactory Assurance</td>
<td>Whilst there is a basically sound system, there are weakness that put some of the system objectives at risk</td>
<td></td>
</tr>
<tr>
<td>Limited Assurance</td>
<td>Weakness in the system of controls are such as to place the system objectives at risk</td>
<td>✓</td>
</tr>
<tr>
<td>No Assurance</td>
<td>Control is generally weak, leaving the system open to significant error or abuse</td>
<td></td>
</tr>
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</table>
EXECUTIVE SUMMARY

An audit of the systems and controls in place within Capacity Management has been completed in accordance with the terms of reference, as agreed with management, which are set out in Appendix 1. Capacity Management is a process that takes three distinct management areas and merges them into a tangible management plan that illustrates the results of the ongoing Capacity Management protocol. The three areas are as follows:

- Business Capacity Management: the translation of business needs and plans into requirements for ICT services and infrastructure;
- Service Capacity Management: the prediction, management and control of the performance of the operational ICT services and their workloads; and
- Resource/Component Capacity Management: the prediction, management and control of the performance, utilisation and capacity of individual components.

This report has taken the different expected processes that span the three areas and commented on the controls in place within them.

In light of risk evaluation undertaken during this audit, a Limited Assurance Opinion is given in respect of the key controls operating over the arrangements for Capacity Management. We have raised five Priority 2 recommendations, which capture all of the areas that require attention within this report where we believe internal controls can be improved.

Policies and Procedures

There are no formally documented policies and procedures in place that relate directly to Capacity Management, although the audit noted that the general subject area is covered in a wider IT management context.

Formal Accountability for Capacity Management has been established and documented

The IT and Customer Services Manager has indicated that he is formally accountable for Capacity Management. This is considered to be implicit in his job role and, as such, a recommendation has been raised to have responsibility delegated to a more operational role involved in day to day IT operational processes.

Business Capacity Management processes are in place

The audit noted ongoing IT Management activities that are designed to take account of current and expected Council activities. For example, the planned joint management arrangement with Cherwell District Council and move to new South Northamptonshire Council Office facilities. As there is no formal Capacity Plan that brings together this and other related activities, such activities, whilst documented are not fed into a documented Capacity Management function. The recommendation set out below includes the need to implement a formal Capacity Plan by expanding the recent Server Infrastructure work into a wider scope that includes all relevant physical IT infrastructures.
Service/Resource Capacity Management processes are in place

There are existing tools that allow for the real time review of limited aspects of Capacity Management, specifically hard drive space on locally installed physical servers. However, the available tools are only used on an ad hoc basis as a perceived need arises. A recommendation has been raised to ensure that the tools are used in a more regular and documented fashion to help with Capacity Management more closely.

New IT Solutions are factored into Capacity Management processes

New IT solutions, demonstrated by IT and other projects that are currently under way, have shown that the area of Capacity Management is considered in terms of what anticipated changes may be required to implement IT development projects. However, this work does not currently feed into a specific Capacity Management function. The recommendations set out below include the need to implement this in a more structured process.

Ongoing Forecasting of Capacity requirements

There are existing tools that would help to implement a process of ongoing forecasting, but that the tools are not used on a regular basis. There has been a one-off exercise to report on the current Server infrastructure, which includes recommendations on future actions for each server, but this activity is not subject to regular review. A recommendation below includes the need to consider using this work as a basis for formally documenting a wider Capacity Management framework that includes the whole of the Council’s physical infrastructure and which is subject to regular, documented review to ensure that it remains current to the Council’s changing needs.

Ongoing Monitoring and analysis of Capacity Usage

There are tools that will help to implement ongoing monitoring and analysis, although these are limited in scope. The current version of the Service Level Agreement with CAPITA does not include the requirement to report on Capacity Management; although sample evidence of the monthly CAPITA service reports indicate that there is the capability to do so but that the function has been disabled. A recommendation in this report includes the need to work with CAPITA to review the Service Level Agreement to have this reporting enabled and for this to be fed into a wider Capacity Management function. The reporting should include both the internal and hosted infrastructure.
DETAILED REPORT

Recommendation 1: Capacity Plan

Management should expand on the existing "SNC Server Overview Report" by creating a wider Capacity Plan, which includes all relevant IT infrastructure such as Network switches and reporting on the current usage and available capacity of each aspect of the infrastructure, both those that are externally hosted and managed in house.

Priority

Priority 2

Rationale

Expanding the existing work will help to ensure that the entire IT Infrastructure continues to be fit for purpose and that the Council can accurately forecast the usage of its IT Systems.

The audit noted that management have drafted a report that lists every server within the Council’s infrastructure, along with current observations on their usage and recommendations on how fit for purpose each server is and what changes are suggested, where appropriate. The report does not include the wider infrastructure, all of which is considered to be relevant to this exercise.

There is an increased risk that elements of the Council’s IT infrastructure may not be reported in the server overview report which could mean that all systems are not picked up and their capacity requirements reviewed.

Management Response

Enhancing the current capacity plan will be chargeable work. Discussions will be held with Capita and a cost identified

Implementation Responsibility and Timetable

IT and Customer Services Manager. August 2011
Recommendation 2  CAPITA Service Level Agreement

Management should enhance the current Service Level Agreement with CAPITA to include the ongoing reporting of Capacity Management for both the local and hosted infrastructure and include data into the Capacity Plan on an ongoing basis as appropriate.

Priority

Priority 2

Rationale

Enhancing the Service Level Agreement with Capita will help to ensure that reporting is provided as part of the monthly service report to report on the current capacity of IT Systems.

The audit noted that CAPITA supply monthly reports on its service according to the Service Level Agreement. There has been a requirement to report on Capacity Management in previous versions of the Service Level Agreement, although the current one does not include this. The report examples obtained for the audit found that there is functionality to provide reports on Capacity Management, although the relevant sections contain no data.

There is an increased risk that Infrastructure Capacity may not be managed effectively without adequate Management Information being available, which could result in a degradation of service on key IT systems.

Management Response

Agreed.

Implementation Responsibility and Timetable

IT and Customer Services Manager. September 2011
**Recommendation 3 Roles and responsibilities**

Management should delegate formal responsibility for Capacity Management to relevant personnel with ICT and ensure that accountability for the function has been formally documented.

**Priority**

Priority 2

**Rationale**

Documented roles and responsibilities will help to establish the accountability and responsibility for reporting on IT capacity within the Council.

Overall ownership has been assigned to the IT and Customer Services Manager, however, this responsibility has not been assigned on an operational basis to report and manage capacity on a day to day basis.

Failure to formally allocate the responsibility for capacity management within the Council could mean that capacity issues are not reported on a day to day basis and capacity issues are not formally reported.

**Management Response**

This area will be covered as part of the CDC-SNC joint working policy harmonisation activities.

**Implementation Responsibility and Timetable**

IT and Customer Services Manager. January 2012
Recommendation 4 Policies and Procedures

Management should document all Capacity Management policies and procedures and ensure that these are reviewed on a regular basis to take account of changing best practice and major changes in the organisation.

Priority

Priority 2

Rationale

Formal documentation regarding ICT Capacity Management will help to ensure a consistent process is followed for the management of capacity related issues within the Council.

The audit found that, whilst there are wider IT processes that may include capacity requirements at a higher level, there are no formal policies and procedures in place that relate directly to Capacity Management and how capacity issues should be reported and monitored.

Unless the Council identifies some processes for capacity management, there is a risk that ICT capacity thresholds may not be reported on, which could impact on the response times of key IT systems

Management Response

This area will be covered as part of the CDC-SNC joint working policy harmonisation activities

Implementation Responsibility and Timetable

IT and Customer Services Manager. January 2012
Recommendation 5  CAPITA Relationship Changes

Management should ensure that any future changes to the outsourced arrangements are taken into account, especially as there will be a reliance on data provided by CAPITA that may no longer be available should there be a significant change to the contract.

Priority

Priority 2

Rationale

Reviewing the current arrangements with Capita with regards to capacity management will help to ensure that any changes to the current arrangements are considered, to ensure that sufficient capacity is in place within ICT systems and that capacity requirements continue to be reported.

Management have indicated that the current outsource relationship with CAPITA may be subject to review. As such, the agreed Capacity Management processes and procedures that may be in place at that time may require review to take account of any changes to the wider management of IT.

Failure to consider changes to the current management arrangements for ICT and the IT infrastructure could mean that IT systems capacity is not reported and that capacity issues are not resolved on a timely basis.

Management Response

This area will be covered as part of the CDC-SNC joint working IT Service Provision activities

Implementation Responsibility and Timetable

IT and Customer Services Manager. March 2012
APPENDIX 1

Terms of Reference - 11/31 ICT Capacity Management

Scope of the Audit

This internal audit will examine the systems and controls in place within the Council for ICT Capacity Management. In particular, the internal audit will focus on the following areas:

- Capacity management – current assessment;
- Business Capacity Management: the translation of business needs and plans into requirements for ICT services and infrastructure;
- Service Capacity Management: the prediction, management and control of the performance of the operational ICT services and their workloads; and
- Resource/Component Capacity Management: the prediction, management and control of the performance, utilisation and capacity of individual components.

Start of Fieldwork  4th April 2011

Audit Staff

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<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Duration</th>
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<tr>
<td>Andrew Robinson</td>
<td>Deloitte</td>
<td>2 Days</td>
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<tr>
<td>Paul Kamminga</td>
<td>Deloitte</td>
<td>8 Days</td>
</tr>
<tr>
<td></td>
<td></td>
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Senior Auditees

Mike Shaw  IT & Customer Services Manager
Tim Bartlett  Information Systems Team
Samantha Hughes  Information Systems Team
Daniel Clifton  Project Engineer, CAPITA

Reporting Deadline and Distribution

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<tr>
<th>Draft Report</th>
<th>April 2011</th>
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<td>David Price</td>
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<td>Sue Smith</td>
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### Implementation Timetable and Responsibility

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<tr>
<th>Ref No.</th>
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<th>Priority</th>
<th>Management Response</th>
<th>Implementation Responsibility</th>
<th>Implementation Deadline</th>
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<tr>
<td>1</td>
<td>Capacity Plan</td>
<td>2</td>
<td>Enhancing the current capacity plan will be chargeable work. Discussions will be held with Capita and a cost identified</td>
<td>IT &amp; CS Manager</td>
<td>August 2011</td>
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<td>2</td>
<td>CAPITA Service Level Agreement</td>
<td>2</td>
<td>Agreed</td>
<td>IT &amp; CS Manager</td>
<td>September 2011</td>
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<td>3</td>
<td>Roles and Responsibilities</td>
<td>2</td>
<td>This area will be covered as part of the CDC-SNC joint working policy harmonisation activities</td>
<td>IT &amp; CS Manager</td>
<td>January 2012</td>
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<td>4</td>
<td>Policies and Procedures</td>
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<td>This area will be covered as part of the CDC-SNC joint working policy harmonisation activities</td>
<td>IT &amp; CS Manager</td>
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<td>6</td>
<td>CAPITA Relationship Changes</td>
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<td>This area will be covered as part of the CDC-SNC joint working IT Service Provision activities</td>
<td>IT &amp; CS Manager</td>
<td>March 2012</td>
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Statement of Responsibility

We take responsibility for this report which is prepared on the basis of the limitations set out below.

The matters raised in this report are only those which came to our attention during the course of our internal audit work and are not necessarily a comprehensive statement of all the weaknesses that exist or all improvements that might be made. Recommendations for improvements should be assessed by you for their full impact before they are implemented. The performance of internal audit work is not and should not be taken as a substitute for management’s responsibilities for the application of sound management practices. We emphasise that the responsibility for a sound system of internal controls and the prevention and detection of fraud and other irregularities rests with management and work performed by internal audit should not be relied upon to identify all strengths and weaknesses in internal controls, nor relied upon to identify all circumstances of fraud or irregularity. Auditors, in conducting their work, are required to have regards to the possibility of fraud or irregularities. Even sound systems of internal control can only provide reasonable and not absolute assurance and may not be proof against collusive fraud. Internal audit procedures are designed to focus on areas as identified by management as being of greatest risk and significance and as such we rely on management to provide us full access to their accounting records and transactions for the purposes of our audit work and to ensure the authenticity of these documents. Effective and timely implementation of our recommendations by management is important for the maintenance of a reliable internal control system. The assurance level awarded in our internal audit report is not comparable with the International Standard on Assurance Engagements (ISAE 3000) issued by the International Audit and Assurance Standards Board.

Deloitte & Touche Public Sector Internal Audit Limited

St Albans

June 2011

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