

**Internal Audit Report - CG-SDD/R/0908**

**Corporate Governance - SDD**

**Application Ownership and Support**

**Issued by:  
Internal Audit Manager  
Internal Audit Section  
Corporate Governance**



ABERDEEN CITY COUNCIL - INTERNAL AUDIT

**MANAGEMENT STATEMENT ON INTERNAL AUDIT**

TITLE : Application Ownership and Support

REFERENCE: CG-SDD/R/0908

**STATEMENT**

This Internal Audit was requested by the ICT Service because application ownership and support is an integral part of an effective ICT Service and its success requires active input and working from both provider and client.

The Audit report addresses both of the main roles in application ownership and support and provides an objective view on where improvement is required. From this independent viewpoint improvement is now being achieved.

CORPORATE DIRECTOR: Stewart Carruth.....

DATE:...26/03/10.....

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**GLOSSARY**

SDD	Service Design and Development
ACC	Aberdeen City Council
IT	Information Technology
ICT	Information and Communication Technology
ITIL	Information technology Infrastructure Library
CareFirst	Integrated Social Work computer application
SAVE	System for Analysing Vehicle Expenses
eFinancials	Corporate financial system
Paybase	System for automated transfer of funds
GLAMIS	System for recording licensing applications
iWorld	Integrated Housing system
CAMS	Corporate Asset Management System
TALIS	Libraries computer system
CMT	Corporate Management Team
GroupWise	Corporate email system
TACSE	Technical Administration in a Client Server Environment
RFC	Request for Change

## **1. INTRODUCTION**

### **1.1 BACKGROUND**

1.1.1 This review was included within the 2009-10 annual plan approved by the Continuous Improvement Committee in June 2009, and was carried out during October 2009 as agreed with the Head of Service Design and Development (SDD).

1.1.2 The review originated from a request by the Head of SDD for this topic to be included within the annual plan.

1.1.3 The high level scope of this review, as set out in the annual plan, was :

- Understand what procedures are in place to allocate ownership of each application in use
- Determine the roles and responsibilities of each application owner in relation to the respective applications
- Identify where application ownership gaps exist
- Determine what arrangements are in place to ensure ongoing support for applications
- Consider controls against expectations of good practice

The review was to cover all applications, whether developed in house by SDD or purchased from an external supplier. In practice there was no difference in the arrangements for the two types of applications, other than the maintenance of externally supplied applications by their vendors.

1.1.4 A list of applications was obtained from SDD at the start of this review. This detailed 322 applications in total. Of these, 43 were found to be no longer used or non operational. We also identified 12 newer applications in use which were not included in the list.

1.1.5 The IT Account Managers are the principal IT point of contact for Services. It is their responsibility to ensure that all SDD services are delivered to meet ACC's business requirements. Each Service has a designated Account Manager.

### **1.2 REPORTING**

1.2.1 This report sets out the outcomes from our review.

1.2.2 Our report makes reference to areas where our review has identified satisfactory arrangements and good practice.

1.2.3 Recommendations have been made where areas for improvement have been identified, however, it is the responsibility of management to make such improvements as deemed necessary outwith this review, in order to ensure sound service delivery arrangements are in place.

1.2.4 The outcomes and recommendations in this report have been discussed with staff from Corporate Governance and other Services during the course of the review and the content was agreed with the Head of SDD before issue.

1.3 ACKNOWLEDGEMENT

- 1.3.1 The assistance received from all staff during the course of the review is greatly appreciated.

## **2 REVIEW APPROACH**

### **2.1 OBJECTIVE**

2.1.1 The objective was to review the processes relating to the ownership and support of IT applications.

### **2.2 REVIEW ELEMENTS**

2.2.1 In order to ensure that Internal Audit addressed the proper concerns, a problem statement was prepared by, and agreed with, the Head of SDD setting out the rationale for the review, as follows:

- the principles of Application Ownership and Support are not clearly understood or observed in the Council at the current time.
- this is a problem for SDD as it may lead to issues such as conflicting requests for application upgrades being received from different Services, or the inability to recharge work to a designated application owner

2.2.2 The following elements of the review were agreed with the Head of SDD:

- i) review of available literature and determination of best practice
- ii) review of procedures in place to allocate ownership of applications
- iii) ascertain roles and responsibilities of application owners
- iv) identification of ownership gaps
- v) ascertain arrangements for application support
- vi) review controls in place against expectations of good practice

### **2.3 DETAILED APPROACH TAKEN**

2.3.1 Review of available literature on IT system ownership and determination of best practice:

A statement of best practice for ICT applications ownership and support was produced from examination of information obtained from the following sources:

- ACC System Administrator Profile
- IT infrastructure Library (ITIL)
- British Computer Society website
- Findings and recommendations from previous audits on the IT functions within ACC

2.3.2 Review of processes in place to allocate ownership of applications:

We obtained a copy of the IT Applications Register from the ICT Account Managers and through examination of the Register determined its currency, completeness and whether it contained sufficient information to be able to readily identify the Service directorate, application, owner, administrator, vendor and account manager.

We held discussions with the ICT Account Managers to determine:

- which applications they are responsible for

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- the owners of applications and user contacts where they have not been identified on the Application Register
- how ownership of applications have been allocated up to present time

We held discussions with the Business Transformation Manager to determine the process for the allocation of ownership of new applications and the process for evaluating requests for purchases of new systems.

### 2.3.3 Ascertain roles and responsibilities of application owners:

We interviewed the Director of Housing and Environment to determine his expectations and knowledge of the roles of a system owner and system administrator.

We interviewed the following system owners to determine their roles and responsibilities as system owners:

- Strategist (Social Work) system owner of CareFirst
- Finance Manager system owner of SAVE
- City Chamberlain system owner of eFinancials and Paybase
- Legal Manager system owner of GLAMIS
- System Manager H&E system owner of iWorld
- Head of Service Shelter and Environment system owner of CAMS
- Service Manager Culture & Leisure system owner of TALIS

### 2.3.4 Identification of ownership gaps:

We examined the ICT Application Register and with the assistance of the ICT Account Managers attempted to identify current Service Directorates, user contacts and/or system administrators, IT Account Managers and system owners for all recorded applications. We examined the Register to identify missing applications and applications no longer in use and applications that have been implemented since the last review carried out in 2007.

### 2.3.5 Ascertain arrangements for application support:

Through discussion with the ICT Account Managers we determined the process for SDD providing support to applications.

Through discussion with the ICT Account Managers we determined the responsibilities for:

- Maintenance of in house systems
- Maintenance of vendor supplied systems – roles of SDD and vendor
- Responsibilities for re-applying bespoke modifications to vendor supplied systems at upgrade
- Arrangements for access to ACC facilities by vendors and third parties



- Assigning priorities to applications and assignment of resources for support and maintenance

We determined the process for evaluating requests for purchase of new systems through discussion with the Business Transformation Manager.

2.3.6 Review controls in place against expectation of good practice:

We carried out the following checks:

- we examined a sample of ICT Help Desk calls spread over the 6 month period between December 2008 and May 2009 to assess adequacy of fault and query handling by ascertaining if the set targets for resolving calls were being met
- we examined the ICT Help Desk performance indicators to determine whether a management review is carried out and actions identified to address issues of missed targets

**3 OUTCOMES**

**3.1 REVIEW OF AVAILABLE LITERATURE ON IT APPLICATION OWNERSHIP AND DETERMINATION OF BEST PRACTICE**

3.1.1 Application Ownership & Support Statement of Best Practice: The following statement of best practice for system ownership and support has been derived from information obtained from IT management guidance papers and knowledge from previous ICT audits:

System Owner

1. Each application should have a single owner who should be a senior manager whose core business lies within the Service making the greatest use of the application. The application owner should have the authority to commit funds for the maintenance and development of the application.
2. Where more than one Service uses an application, those Services other than the principal user should each appoint a senior user to liaise with the application owner on proposed enhancements and upgrades to the system. The system owner will be responsible for evaluating and resolving competing or incompatible proposals.
3. The system owner should appoint a system administrator who will have responsibilities for liaison with SDD and for agreement of schedules for system upgrades. Where it is necessary for lower level administrators to be appointed within other Services to deal with issues such as the granting of system access to users, they should be granted the minimum access necessary to carry out these duties, subject to the limitations of the individual application.
4. The respective responsibilities of the application owner and of SDD for funding the infrastructure necessary to support the application should be agreed and documented.
5. Where no application owner is recorded, responsibility should fall by default on the main user, based on core business use.

SDD Responsibilities

6. All proposals for new applications should be subject to review by SDD to check:
  - Whether a similar application is already in use within ACC
  - Whether the proposed application fits in with available operating system and database requirements
  - Whether the proposed application is obsolete or obsolescent
  - Whether alternative applications are available which should be considered on grounds of functionality, cost etc

Where no applications available from vendors meet the user's requirements 100%, discussions should be held between SDD and the user service to identify whether the gaps would form an insurmountable obstacle to the use of any of the applications. Where no agreement can be reached, the matter should be referred to CMT for a decision.

7. The Team Leader Information Systems will be responsible for coordinating application maintenance and upgrades.
8. The applications register should be subject to periodic review by SDD to identify applications which are becoming obsolescent. System owners should be informed by their ICT Account Managers of the need to begin consideration of options for upgrade or replacement.
9. All user queries, fault reports and requests for enhancements or upgrades should be recorded by SDD and progress monitored. SDD should liaise with system owners on the implementation of new releases of applications issued by vendors.

#### Joint Responsibilities

10. System user groups should be set up for major applications (ie applications used by staff from more than one Service or from a number of different locations, or applications with differing functionality used by specific groups of users), and should meet at least quarterly to enable discussion of matters of common interest. These groups should be facilitated by SDD.
11. Service Level Agreements should be established between SDD and Services setting out the service to be provided by SDD, including:
  - Target times to respond to user queries and fault reports
  - Target resolution times for faults
  - Percentage performance to be aimed for in achieving key targets
  - Hours of availability of support
  - SDD staff availability to work on application upgrades and enhancements
  - Notice period required for application upgrades required by specific dates due to eg statutory requirements
  - Details of key contact points for applications and means of raising queries, fault reports and requests for upgrades and enhancements
  - Targets for application down time
  - Details as to which if any services provided by SDD will be chargeable to the user Service
  - SDD and Service responsibilities for funding the infrastructure necessary to support applications
  - Details of SDD and user responsibilities for disaster recovery and business continuity
  - Escalation procedures in case of user dissatisfaction with SDD performance

3.1.2 **Conclusion:** SDD do not currently have an **adopted statement of best practice** for application ownership and support. The adoption of such a statement would form a sound basis upon which advice could be given to Services where there was a lack of understanding on their roles and responsibilities or on the actions which they could reasonably expect to be carried out by SDD to support the applications owned by the Service. It is acknowledged that SDD already have measures in place to address a number of the components of the statement listed above, such as the recording and

monitoring of requests for enhancements, and that work is ongoing to address certain other components, such as the establishment of Service Level Agreements.

3.2 REVIEW OF PROCESSES IN PLACE TO ALLOCATE OWNERSHIP OF APPLICATIONS

3.2.1 IT Application Register: We examined the content of the latest IT Application Register obtained from IT Account Managers and found the following deficiencies:

- the Register was last reviewed 3 September 2007
- does not identify applications that have been decommissioned since the Register's last review (e.g. ConSol, Fuel Management, etc)
- does not identify all applications (e.g. CAMS, Consilium, GroupWise, etc)
- does not reflect the current ACC corporate management structure (i.e. Corporate Governance, Housing and Environment, Social Care and Wellbeing, etc)
- does not reflect the current IT Operations Team structure for applications support
- does not identify the IT Account Manager with responsibility for each of the applications
- does not identify all system owners, corporate directorate, user contacts and application details
- does not identify if vendor application has been modified for ACC use
- does not identify the location of the application host server
- does not identify any application links to other business processes
- does not identify the backup and recovery details of any of the recorded applications

We examined the entries for each application on the IT Application Register (322 in total, of which 43 are obsolete or out of use) and found:

- System Owners - Of the 322 (100%) recorded applications only 30 (9%) have a system owner recorded. 13 of 30 (43%) have system owners listed who are no longer employed with ACC
- User Contacts - Of the 322 (100%) recorded applications only 177 (55%) have a system administrator/user contact recorded. 96 of 177 (54%) user contacts identified could not be found on the Zone, indicating that the contact was no longer employed by ACC but that the Service had not given SDD details of their replacement
- Supplier Details - Of the 322 (100%) recorded applications only 179 (56%) have supplier details (i.e. vendor name or in house developed) recorded

3.2.2 IT Account Managers Responsibilities: The IT Account Managers are the principal IT point of contact for Directorate Services. It is their responsibility to ensure that all SDD services are delivered to meet ACC's business requirements. The four IT Account Managers have each been assigned responsibility to the Directorate Services as follows:

- 1 Enterprise, Planning and Infrastructure and Housing and Environment
- 2 Social Care and Wellbeing
- 3 Corporate Governance and Elected Members
- 4 Education, Culture and Sport and Office of Chief Executive

3.2.3 Corporate Systems: We found from discussion with the Operations Manager SDD that there has been no decision made on where ownership of Corporate systems lies e.g. GroupWise email.

3.2.4 **Conclusion**: The IT Application Register is out of date and does not reflect the current ACC Directorate Service or applications implemented and decommissioned since September 2007. A current IT Application Register would assist IT to identify early those applications up for renewal, applications that are not supported and to enable SDD to plan resources accordingly.

There has been no decision made on the ownership of Corporate systems. Failure to identify ownership of Corporate systems increases the likelihood that agreement would not be made on arrangements for enhancements and upgrades.

### 3.3 ASCERTAIN ROLES AND RESPONSIBILITIES OF APPLICATION OWNERS

3.3.1 System Owner – Allocation of Role & Responsibilities: We found from discussion with the ICT Operations Manager, Account Managers, 7 system owners and 1 Corporate Director that there is no formal definition and process for the allocation of system owner roles and responsibilities.

We found from examination of the ACC Delegated Powers 2008 document that this document makes no reference to the roles of system owners or administrators.

We found through discussion with the 7 system owners and 1 Corporate Director that the roles and responsibilities as described in the statement of best practice (refer to 3.1.1 above) are being carried out either by the system owner or where appropriate delegated to the system administrator with the system owner addressing any issues requiring to be escalated to a higher level.

3.3.2 **Conclusion**: The allocation of the roles and responsibilities of system owner is carried out by the Services and although there is no adopted policy on this matter best practice guidance (refer to items 1-5 from statement of best practice at 3.1.1) is being adhered to. The lack of a policy or best practice advice on system ownership increases the likelihood that the role of system owner is allocated to officers who are unable to effectively arrange and provide the appropriate resources for enhancements, upgrades, administration and continuity of service.

### 3.4 IDENTIFICATION OF OWNERSHIP GAPS

3.4.1 Application Register Gaps: From examination of the IT Application Register with assistance from the IT Account Managers to update and complete entries, we found that a total of 322 applications were listed. Details of a user contact, the SDD Account Manager, and the Service should be included in all cases. Analysis of the Register identified the following:

	<b>Total Applications</b>
Applications Register 2007	322
plus applications found and not listed	12
Less applications found non operational/obsolete	43
<b>Total live applications as at October 2009</b>	<b>291</b>

	<b>Details Present</b>	<b>%age Correct</b>	<b>Details Missing</b>	<b>%age Missing</b>
<b>Live applications showing:</b>				
System Owner	39	13%	252	87%
IT Account Manager	133	46%	158	54%
Service Directorate	160	55%	131	45%
User Contact or System Admin	165	57%	126	43%

3.4.2 Addressing Register Gaps: We found the operation to address and complete the gaps in the IT Application Register too great a task to complete within this review. The attempt to address the gaps was greatly hindered by the ICT Account Mangers not being able to identify current user contacts or owners of applications and the unavailability of application contacts either through leave absence or the contacts listed no longer being employed with ACC.

3.4.3 Conclusion: As 3.2.4 above

### 3.5 ASCERTAIN ARRANGEMENTS FOR APPLICATION SUPPORT

3.5.1 Application Support Arrangements: IT Operations have arrangements in place for the support of applications that include:

- (i) IT Account Managers who are the principal point of contact for Service Directorates where each Account Manager is responsible for one or more Directorates
- (ii) Operations Support function responsible for support and maintenance of ICT services
- (iii) a Help Desk responsible for incident and problem management
- (iv) Operations monitoring function responsible for monitoring of ICT infrastructure
- (v) a hand over process from implementation/technical team to support team
- (vi) a process for requesting enhancements and upgrades

3.5.2 Application Handover Procedures: We found from examination of the Technical Handover procedures which provides guidance and instruction for the handover of applications from development and implementation stage to operations support that the procedures were developed between October and December 2008 and remain in draft format. In addition the document Technical Administration in a Client Server Environment (TACSE), which was produced in 2003, contains sections on staff responsibilities for the implementation of systems and upgrades and continues to be

used as a working procedure. Failure to maintain a set of agreed and approved procedures increases the likelihood that hand over documentation may be incomplete and operations support requirements may not be addressed

We were advised by the Operations Support Team Leader that a complete set of application documentation was not always provided to operations support. Failure to supply a complete set of documentation increases the likelihood that Operations Support may be unable to provide effective support of the application.

3.5.3 **Conclusion:** IT Operations have adequate defined arrangements in place for the provision of support, covering implementation and daily operation of IT for Services. However, the finalisation of documentation for technical handover of applications from development to IT Operations is inconsistent and does not provide assurance of the quality of support available.

### 3.6 REVIEW CONTROLS IN PLACE AGAINST EXPECTATIONS OF GOOD PRACTICE

3.6.1 **Good Practice:** The ICT Help Desk records and prioritises all reported faults, issues and queries. The ICT Help Desk prioritises calls into the following 3 categories with specified timescale for resolving the call:

- Priority "A" - system or server down (i.e. not available) - 1 day fix
- Priority "B" - PC, hub port and associated peripheral faults, system faults, access problems - 3 day fix
- Priority "C" - queries/requests for information - 10 day fix

The Operations Manager has set the following monthly performance targets for Operations to achieve:

- uptime for major computer applications - 99.5%
- resolution of priority "A" calls - 90%
- resolution of priority "B" and "C" calls - 75%
- resolution of all calls (cumulative over the year) - 82%

From examination of calls raised with the ICT Help Desk over the 6 month period between December 2008 and May 2009 we found:

- uptime for major computer applications was above the target of 99.5% for all months
- resolution of priority "A" calls was below the target of 90% at an average of 82% over the 6 months. The Operations Manager stated that the numbers of such calls were low (typically 15 to 20 priority "A" calls per month from a total of around 2,500), so that any failure to resolve a single call within the 1 day target would impact upon the reported performance.
- resolution of priority "B" calls was above the target of 75% at an average of 84% over the 6 months
- resolution of priority "C" calls was above the target of 75% at an average of 93% over the 6 months



We confirmed that management had reviewed the figures and that action had been taken to address the issues found.

3.6.2 Enhancement/Upgrades: It was not possible to produce a Help Desk report showing:

- total enhancement/upgrade requests logged
- total enhancement/upgrade requests resolved on time
- total enhancement/upgrade requests resolved late

The Service Desk Co-ordinator explained that this was because enhancement and upgrade requests were frequently logged under different categories, for example an upgrade for example of a PC may be recorded as "pc not working" rather than as an upgrade request.

Recording and analysis of enhancement and upgrade requests as a specific category of work would allow improved monitoring of performance.

3.6.3 **Conclusion**: IT Operations follow good practice by recording, prioritising and progressing requests and faults according to identified priorities and timescales. A management review of ICT Help Desk performance against set targets is carried out monthly with actions taken to address problem areas. Two weaknesses noted were:

- (i) the performance indicator on meeting the target of 90% for resolution of priority "A" calls within 1 day is not very meaningful. A more meaningful performance measure would be based on the length of time taken to resolve these high priority calls.
- (ii) requests for enhancements and upgrades are not all recorded under the category of Request For Change (RFC)

### 3.7 OVERALL CONCLUSION

3.7.1 Effectiveness of Process: The processes for allocating the roles and responsibilities of system owners have been defective.

3.7.2 In particular, an exercise is required to produce an updated IT Application Register with verified details for each application, including:

- Service Directorate
- System Owner
- System Administrator and/or user contact
- IT Account Manager

3.7.3 It would also assist the understanding of the roles and responsibilities of application ownership and support if a formal statement of best practice were to be adopted as the basis for the relationship between Services and SDD.

3.7.4 The procedures for the support of application by SDD are generally adequate. Three of the four key performance indicators were above target for the 6 month period examined.

**4. RECOMMENDATIONS**

Recommendations have been graded by Internal Audit: H = High, M = Medium and L = Low.

**4.1 REVIEW OF AVAILABLE LITERATURE ON IT SYSTEM OWNERSHIP AND DETERMINATION OF BEST PRACTICE**

**4.1.1 Statement of Best Practice:** The Head of Service Design and Development should adopt and implement the Statement of Best Practice for application ownership and support as set out within this review (refer 3.1.1). (M)

Auditee response: Agreed

Implementation date: 31 March 2010.

**4.2 REVIEW OF PROCESSES IN PLACE TO ALLOCATE OWNERSHIP OF APPLICATIONS**

**4.2.1 IT Application Register Gaps:** i) The IT Account Managers should contact the application users to ascertain the information required to overcome the deficiencies identified above and update the IT Application Register (refer 3.2.1). (M)

ii) The Service Desk Co-ordinator should review the IT Application Register annually and update where necessary (M)

Auditee responses: i) and ii) Agreed.

Implementation dates: i) 31 March 2010. ii) 31 August 2010, to tie in with start of annual budget setting process.

**4.2.2 Ownership of Corporate Systems:** The Head of Customer Service and Performance should assign ownership of the GroupWise application to a nominated member of staff outwith the ICT function (refer 3.2.3). (L)

Auditee response: Agreed. The nominee will be advised by the new Head of Customer Service and Performance once in post.

Implementation date: Dependent on date of appointment of Head of Customer Service and Performance.

**4.3 ASCERTAIN ROLES AND RESPONSIBILITIES OF APPLICATION OWNERS**

Best Practice: The Head of Service Design and Development should communicate the adopted Statement of Best Practice to Directors and Heads of Service, indicating that they should adopt items 1-5 of the Statement when allocating system owner roles and responsibilities (refer 3.1.1). (M)

Auditee response: Agreed.

Implementation date: 31 March 2010.

**4.4 IDENTIFICATION OF OWNERSHIP GAPS**

**4.4.1 IT Application Register Gaps:** Covered under Recommendation 4.2.1 above.

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## 4.5 ASCERTAIN ARRANGEMENTS FOR APPLICATION SUPPORT

4.5.1 Procedures and Documentation: The Operations Manager should ensure that:

- i) procedures for the hand over of applications from development and implementation stage to operations support are agreed, approved and implemented (refer 3.5.2). (M)
- ii) a complete set of application documentation is supplied to operations support on hand over of all applications (M)

Auditee responses: i) and ii) Agreed.

Implementation dates: i) 31 January 2010 ii) Ongoing as applications are handed over.

## 4.6 REVIEW CONTROLS IN PLACE AGAINST EXPECTATIONS OF GOOD PRACTICE

4.6.1 Practice Improvements: The Operations Manager should:

- i) implement a more meaningful performance measure on the length of time taken to resolve priority "A" Help Desk calls (refer 3.6.1). (M)
- ii) produce regular performance reports on change requests for system users (refer 3.6.2). (M)

Auditee responses: i) and ii) Agreed.

Implementation dates: i) and ii) 30 April 2010.

Senior Auditor	Ian Anderson
Auditor	Jeff Hill
Budget days	25
Actual days	26