IT System: Technology Forge

IWC-2122-017

Limited Assurance

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Contents

Executive Summary	Page 3
Assurance Levels	Page 5
Objectives & Scope	Page 6
Exceptions	Page 7
Exception Ratings	Page 13

Executive Summary

An audit of the processes and procedures in place to manage Technology Forge (the IT system used to manage the Council's property portfolio) has been undertaken in accordance with the 2021/22 Audit Plan.

Achievement of the Council's Strategic Objectives	**Reasonable Assurance**

One medium-risk exception has been raised; further detail can be found in the main body of this report.

Contract/Vendor Management (medium risk): the Council does not have a current contract with the system vendor and the relationship with the vendor is managed informally. The Service also need to engage with the Council's IT and Procurement teams, regarding evaluation of a potential move to the vendor's Cloud based offer.

Safeguarding of Assets	**Limited Assurance**

One high-risk exception has been raised; further detail can be found in the main body of this report.

Continuity (high risk): the Service does not have a documented or tested Business Continuity Plan (BCP) for use, should Technology Forge not be available.

Effectiveness and Efficiency of Operations	**Limited Assurance**

One high-risk and one medium-risk exception have been raised; further detail can be found in the main body of this report.

Roles and Responsibilities (high risk): Technology Forge is administered within the Service, rather than centrally by IT and technical processes are not documented. For context the total number of users is low (30 active accounts), no orphan accounts (live accounts, no longer required) were identified and there have only been two new users added to the system in the three years preceding audit.

Change Management (medium risk): the last change to Technology Forge in 2018 was applied straight to the live environment, without prior testing.

Completion of the audit	**Limited Assurance**

Two high-risk and two medium risk findings have been raised as a result of audit testing. For context Technology Forge is a small system (30 users), which is widely used in the local government sector and has been used by the Council for many years, without significant issue. However, virtually all elements of how the system is managed/reviewed fall short of good practice, as summarised above. It is noteworthy that this is the only significant system left at the Council known to be managed primarily within a service department.

Please be aware that summaries of all exceptions are routinely reported to the Audit Committee who may call in any Audit report they wish. Where any critical exceptions are found and/or the audit receives an overall level of 'no assurance' these will be reported in their entirety to the Audit Committee along with the director's comments. These exceptions may also be reported to the relevant portfolio holder.

Assurance Levels

The overall assurance is given on the activity that has been audited.
These levels are based on the areas tested within the audit as noted with the Objectives & Scope.

Levels	Description / Examples
Assurance	No issues or minor improvements noted within the audit but based on the testing conducted, assurance can be placed that the activity is of low risk to the Authority.
Reasonable Assurance	Control weaknesses or risks were identified but overall the activities do not pose significant risks to the Authority.
Limited Assurance	Control weaknesses or risks were identified which pose a more significant risk to the Authority.
No Assurance	Major individual issues identified or collectively a number of issues raised which could significantly impact the overall objectives of the activity that was subject to the Audit.

Objectives and Scope

The objectives of the audit were to ensure:

Achievement of organisation's Strategic Objectives

Appropriate arrangements are in place to ensure the continued availability of a fit for purpose system:

- A current contract with the vendor is in place.
- If the contract is within 12 months of expiry procurement activity has commenced, including engagement with the central procurement team.
- Performance expectations are identified in the Contract, either in a specific contract schedule, separate Service Level Agreement (SLA) or equivalent.
- Oversight is in place to ensure performance expectations are met, for example regular meetings with the vendor and periodic reporting.

Safeguarding of Assets

Appropriate continuity arrangements are in place:

- A Business Continuity Plan (BCP) is in place, which specifies alternative processing arrangements, should Technology Forge not be available.
- The BCP is periodically reviewed, with expectations confirmed as realistic with IT.
- Data in Technology Forge is regularly backed up, with copies stored offsite.
- System restoration is tested periodically, within the last three years.

Effectiveness and Efficiency of Operations

Effective roles and responsibilities are in in place, clear and understood:

- Responsibilities and core processes are documented.
- Documentation is periodically reviewed, to ensure it is kept up to date.
- There is a clear division between technical and operational responsibilities.
- The number of administrative users is minimised.
- New users require authorisation, before logins are created.
- Leavers are removed from the system in a timely manner.
- Appropriate arrangements are in place, to ensure users have appropriate skills to use the system, for example training/cross skilling.
- Changes are tested and approved, prior to being implemented.

Exceptions

IWC-2122-017-001	Contract/Vendor Management	Medium

Achievement of the Council's strategic objectives

Exception

Neither a current nor historic contract could be located by the central contract team, the Service or in the Council's contract store (used for paper contracts). However:

- The vendor is well established and widely used within the local government/public sector.
- Technology Forge has been used by the Council to manage its property portfolio for well in excess of 10 years, without significant issues.
- The system is hosted in-house and based on standard MS technology (local Access runtime, backed by a centrally hosted SQL Server database).
- Technology Forge is relatively low cost, £6,834 for 2020, £19,980 cumulatively since 2018.

While the points above reduce the risk associated with the current position, the absence of a contract does expose the Council to several risks (see below). The current lack of 'formality' also means there are no documented performance expectations of the vendor, for example response times for support requests, or agreed meeting frequencies or expected reporting and frequency from the vendor. Internal Audit also notes that while the annual cost is relatively low given Technology Forge's extended use it should have been subject to a retendering exercise.

Internal Audit also notes that the Council is in the early stages of investigating moving to a Cloud based version of Technology Forge; to date neither the central Procurement Team nor the Council's IT Department have been involved in these discussions. While a Cloud based system potentially offers a number of benefits, for example better resilience, it would also increase the Council's reliance on the vendor and consequently the need for a contract and more a more formal approach to managing the vendor relationship.

Risks and Consequences

Without a contract with the system vendor the Council has less certainty regarding the continued availability of the system and the functionality it provides to support managing the property portfolio. Procurement activity may not be initiated when required and ultimately the Council may find itself without access to the system, potentially at short notice.
Without sufficient performance management regarding the system/vendor the performance/availability of the system will be more likely not to meet the Council's needs.
If IT and procurement are not sufficiently involved in discussions with the vendor then technical and procurement organisational/good practice expectorations will be less likely to be met.

Agreed Action	Person Responsible / Action by Date
The Service will: • Engage with both the Council's procurement and IT department regarding discussions with the vendor's Cloud based system. • Ensure that a formal contract, with a specific schedule/SLA covering performance expectations, reporting and meetings with the vendor Is put in place, either for the potential Cloud based or the current locally hosted version of Technology Forge.	Stuart Newnham, Property Management Surveyor - September 2021

IWC-2122-017-002	Continuity	High

Safeguarding of Assets

Exception

The Service does not have a Business Continuity Plan (BCP), setting out alternative/manual processes to be used in the event that Technology Forge is not available.

As noted in finding one Technology Forge comprises of a locally installed MS Access runtime, backed by a centrally hosted MS SQL Server database. In practice the use of a local install means that there is no 'application' server, any application issues would therefore be discrete to individual installs. The database is centrally managed by IT, backed up on a weekly and daily basis (effectively meaning a Recovery Point Objective (RTO) of 24 hours). Logs for the three months prior to audit have been reviewed, with no 'fails' listed; technical staff confirmed that should any fails occur these would be investigated and resolved as part of daily routines.

From an IT perspective Technology Forge is a lower priority system, meaning that in the unlikely event of a full outage the system may not be available for a number of days (higher priority items are limited to core messaging/infrastructure and public protection/social care systems).

Risks and Consequences

Without a documented and tested BCP Plan the Service will have to fall back on untested manual processes, potentially for an extended period. These may prove not to be fit for purpose, impacting both on the effectiveness of the service provided and lead to an extended recovery period, once system functionality is restored.

Agreed Action	Person Responsible / Action by Date
The Service will: • Engage with IT, to confirm the level of service which is required and which can be delivered by IT. • Document and test a BCP Plan, setting out manual processes and recovery, once the system is restored, subsequent to any outage. • Schedule annual review and periodic testing of the BCP.	Stuart Newnham, Property Management Surveyor September 2021

IWC-2122-017-003	Roles and Responsibilities	High

Effectiveness and Efficiency of Operations

Exception

The system is administered within the Service, rather than centrally by IT and 'technical' processes, for example user management are not documented. For context the total number of users is low (30) and there have been limited change to the user population within the three years prior to review (two new users). Internal Audit also notes that comprehensive documentation is in place for operational processes reliant on the system, produced in-house by the Service. There is one 'generic' account (not linked to a named user), for IT use.

A satisfactory 'audit trail' of request, authorisation and implementation, by separate technical staff (to ensure segregation of duties) could not be evidenced for either of the users added to the system during the three years prior to this review (for context both new users identified were added in 2020).

While no orphan accounts (live accounts, present for staff who have left the Council) nor unneeded accounts (all live account holders were contacted to inform this review) were identified it has not been possible to confirm that accounts were removed in a timely manner, nor that the level of access is appropriate to job roles, due to the absence of formal technical processes.

As above Technology Forge is a relatively small system; IT have confirmed they have the capacity to take on administration of the system within central IT teams.

Risks and Consequences

Processes which are not documented are more likely to be carried out inconsistently, have gaps/weaknesses and be reliant on a small number of staff. When technical duties are carried out in the same team(s) responsible for operational duties this also violates segregation of duties, inherently weakening the security of the system.
When audit trails of actions, for example authorisations and when actions are requested and carried out, are not appropriately documented it is not possible to clearly evidence timely, effective and authorised processing; this increases the risk that inappropriate access to the system may exist.
Generic users increase the risk that inappropriate actions could be carried out, which are not uniquely attributable.

Agreed Action	Person Responsible / Action by Date
The Service will: • Investigate moving administration of Technology Forge to within the IT Department. • Document the processes of granting, editing and revoking access to Technology Forge, based on job roles; specifically this should include authorisation from an appropriate source of authority.	Stuart Newnham, Property Management Surveyor September 2021

IWC-2122-017-004	Change Management	Medium

Effectiveness and Efficiency of Operations

Exception

The last change to the system was implemented in 2018. This entailed upgrading the local MS Access runtimes and the central MS SQL Server database. Comprehensive instructions were provided by the vendor; however, the key steps of upgrading the test version of the database and testing this on a test machine with test version of the new runtime were not carried out. For clarity these are identified in the instructions from the vendor.

Risks and Consequences

Unstable changes/versions being applied to the live environment, potentially leading to service interruption and data loss.

Agreed Action	Person Responsible / Action by Date
The Council will ensure that future upgrades follow vendor instructions; specifically, the 'new' version of the system should be tested and signed off by the Service, prior to the live database and local runtimes being upgraded.	Stuart Newnham, Property Management Surveyor September 2021

Exception Ratings

The following tables outline the exceptions from the recent audit and are reported in priority order. Internal Audit report regularly to the Audit Committee on findings and management actions. However, in accordance with agreed protocols, all critical exceptions are brought to the attention of the Committee.

Priority Level	Description
Critical Risk	Control weakness that could have a significant impact upon not only the system function or process objectives but also the achievement of the organisation's objectives in relation to: • The efficient and effective use of resources. • The safeguarding of assets. • The preparation of reliable financial and operational information. • Compliance with laws and regulations. And corrective action needs to be taken immediately.
High Risk	Action needs to be taken to address significant control weaknesses but over a reasonable timeframe rather than immediately. These issues are not 'show stopping' but are still important to ensure that controls can be relied upon for the effective performance of the service or function. If not addressed, they can, over time, become critical. An example of an important exception would be the introduction of controls to detect and prevent fraud.
Medium Risk	These are control weaknesses that may expose the system function or process to a key risk but the likelihood of the risk occurring is low.
Low Risk (improvement)	Very low risk exceptions or recommendations that are classed as improvements that are intended to help the service fine tune its control framework or improve service effectiveness and efficiency. An example of an improvement recommendation would be making changes to a filing system to improve the quality of the management trail.