

ISC11D012

Title: Report on the pilot of a Managed Print Service approach to photocopying and printing
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Issue

A report describing the pilot for a Managed Print Service for printing and photocopying.

Recommendation

The committee is asked to note the contents of the report.

Resource Implications

Detailed in the body of the report.

Risk Implications

Not applicable

Equality and Diversity

Not applicable

Timing of decisions

Not applicable

Further Information

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Background

A pilot was set up to test the applicability of a Managed Print Service for printing and photocopying at the University. This report provides details of the pilot, and recommendations for the future approach to printing and photocopying.

Discussion

Report on the pilot of a Managed Print Service approach to photocopying and printing

The following represents the findings of the Managed Print Service pilot project, the progress of which has been previously reported to ISSC. The pilot has been undertaken to understand the detail and implications so as to determine whether this is appropriate for campus wide roll out. The pilot period was 1st April to 31st May 2011.

The sections are:

1. Introduction
2. Summary of work carried out to achieve roll out
3. The Managed Print Service pilot experience
4. Costs and potential savings associated with campus wide roll out
5. Conclusions
6. Other options
7. Recommendations

1. Introduction

A managed print service involves taking an enterprise wide approach to printing and photocopying. There is the potential to deliver cost savings by enabling a culture change to rationalise the amount of equipment currently deployed to support printing and copying whilst also assist the university in meeting its sustainability objectives. With the exception of a small number of areas, local desktop printers are widely deployed across campus and separate devices are used for networked printing and copying. Multi function devices (mfd) provide integrated functionality for networked printing, copying, scanning and faxing.

2 Summary of work carried out to achieve pilot roll out

2.1 Following a feasibility study an ISD Managed Print Service (MPS) pilot project IS 08.16 to support staff printing was implemented in April 09 – see Appendix A.

2.2 Tender - Ricoh were appointed as the preferred partner from the outcome of the tender process, which was carried out in Autumn 2009, of suppliers who were on the Office of Government Commerce (OGC) framework.

Tender submissions were considered from Canon, Danwood, Konica Minolta and Ricoh.

The tender was in two parts –

Part 1: The supply of multi function devices to the campus

Part 2: A Managed Print Service

For Part 1 the MFD's proposed were Ricoh's own product.

For Part 2 the Managed Print Service system software proposed by Ricoh was Equitrac.

The tender arrangements made no financial commitment for UEA in respect of Part 2, so as to provide Ricoh the opportunity to demonstrate that their proposed would work, adequately supported and meet campus needs.

2.3 Equitrac

'The Equitrac Corporation provides print management and cost recovery software that enable organisations to effectively manage their printing environments, reduce costs, increase document security and promote sustainability.' Equitrac is an industry standard tool.

Printing works on 'Follow Me/ Follow You' principles with a virtual queue so that a user can release a print job at any device which is connected to the system. The monitoring and management reporting tool is comprehensive providing numerous customisable reporting sub categories under the headings of Accounts; Analysis; Detailed Activity; Summary Activity; Total Activity

2.4 Proof of concept testing

A MPS technical project team was established, comprising of colleagues from the ITCS identity management, central systems and desktop services teams; Print Services; SSF IT Faculty Manager who carried out a detailed and lengthy period of work on a test environment in ITCS. This work was carried out with the assistance of Ricoh to ensure that the Equitrac system was compatible with UEA systems and desktop computers, and would provide users with a consistent experience.

2.5 Client desktop computers supported

Equitrac supports PC (XP and Windows 7) and Mac OS. There is no support for Linux or any planned developments to do so.

2.6 Pilot site and audit

With the support of the HUM and SSF Faculty Deans and Directors of Faculty Administration it was originally planned that the Arts Building would host the pilot.

Ricoh carried out an audit of existing copiers and printers, the activity on those devices, and met with a representative sample of users to understand their needs. A report followed which made recommendations for the numbers and types of devices for deployment on each floor and the potential savings which could be achieved. In identifying suitable mfd locations (mainly corridors) the University Safety Service (USS) raised concerns under HSE guidelines for fire precautions in educational establishments which proved to be a showstopper.

To regain momentum to the pilot project, the SSF Dean, NBS Head of School and SSF DFA agreed the locations of SSF Admin Floor 1 EDU and NBS accommodation in the Thomas Paine Study Centre. Ricoh conducted another audit and provided equipment recommendations which were largely already in place. USS supported the location of the devices.

2.7 Consistent user experience

Staff were able to go to any device in the pilot areas to release a print job or copy. It was considered important to provide a consistent user experience at the device for which Ricoh ensured that each had the same version of control screen interface installed.

2.8 Authentication and secure release

The mfd's were fitted with Mi-fare campus card readers to provide secure release facilities, and where necessary staff were issued with new campus cards, replacing the older versions in use, to authenticate at the device by swiping their card to print, copy or scan.

2.9 Application of rules

Whilst it had originally been envisaged that rules would be applied for duplex printing on all devices and printing greyscale on colour devices, in practice none were applied because of the range of needs of staff in the two pilot areas. Instead default settings were used which could be changed by individual users to meet their needs.

2.10 The use of account codes

It emerged during proof of concept testing that multiple account codes, for use by users within individual AD groups added further complexity to the workflow, requiring duplication of entry of a chosen code at the client workstation to submit the job and manual entry at the mfd to release it; requiring staff to remember it; creating the potential for queues to develop at the mfd's; causing frustration for users

It was agreed by the SSF Faculty that for the purpose of the pilot the coding structure would be simplified to one account code per group i.e. SSF Admin; NBS.

2.11 Print Services

It had been hoped that Print Services could be integrated with the Equitrac system to enable the routing of large volume jobs to them. This was not an option without further work to identify a suitable solution.

2.12 Managed Print Service roll out

A detailed plan was developed and agreed with Ricoh and UEA colleagues, and the Managed Print Service was rolled out to the pilot areas at the end of March. Training and system support was provided by Ricoh professional services staff for users and UEA arrangements were supported by ITCS and SSF IT staff. The plan included contingency arrangements to roll back from the Managed Print Service to UEA network printing.

This included the deployment of Ricoh monochrome and colour multi function devices (TPSC NBS 4 Mono; 1 Colour + SSF Admin 2 Mono; 2 Colour); and the Equitrac software for the Managed Print Service system.

3.0 The Managed Print Service Pilot Experience

It is appropriate to say that the Managed Print Service pilot has not been without its problems, although it can be noted that there has not been a need to roll back to UEA network printing.

3.1 Pilot Statistics

Generated from Equitrac in the period 1/04/11 to 31/05/11 - 111 pilot users printed 28,266 jobs totalling 101,809 pages of which 32,339 pages were colour.

3.2 Problems at the initial stages of roll out.

The Ricoh related issues were:

- the setting up of the Follow me/Follow You virtual queues
- device configuration in Equitrac
- the ability to select individual paper trays for multi coloured sheets of paper for a particular group of users

In this initial period Ricoh demonstrated their ability to mobilise resources responsively; the quality of their support; the flexibility and commitment of their staff.

The UEA related issues at the initial stages of roll out were:

- local interpretation of the procedure for adding users into AD groups which affected approximately 20 users
- reverse DNS entry look up issues for two of the devices

Equally, UEA IT staff responded appropriately and in a timely manner to address problems when they arose.

3.3 Ongoing problems

Of more concern is the intermittent nature of repeat problems experienced by users when printing from Microsoft Word, Excel, Outlook; Adobe Reader; from within SITS. These could normally be resolved by the user restarting their pc, but is not regarded as a desirable approach because of the effect on user workflow and the availability of staff providing the IT support. These problems did not emerge in the proof of concept testing stage.

3.4 Interoperability

The problems experienced in 3.3 despite investigations by Ricoh and the UEA technical team could not be pinned down to one particular cause other than a combination arising from Equitrac interaction with UEA systems. UEA is in the process of rolling out the Windows 7 desktop. As the pilot progressed Windows 7 has proved to be more reliable than XP for which it became apparent there is an inconsistent deployment of the versions of service packs which has contributed to some of the problems experienced

3.5 User Feedback

See Appendix B for the short Google survey that has been conducted of staff experiences in the pilot area.

47 responses have been received from teaching/research and admin staff.

In summary:

- Problems printing to follow me/follow you queues
 - 21 - usually worked
 - 16 - problems from time to time

- 3 - problems every week
- 7 - problems every day
- 32 - Problems printing pdf's, Office applications, from SITS
- 18 - Problems with paper tray selection
- Effect on workflow
 - 7 - improvement or more efficient
 - 8 – no significant change
 - 30 – took longer to perform tasks
- Concerns for campus wide roll out
 - Staff need to have Windows 7
 - Processes will be slowed and productivity reduced
 - Sufficient numbers and availability of devices
 - IT support for problems
 - Must work and be reliable
 - Resilience and business continuity in the event of system failure
 - Adjusting to change
 - Reduction in quality for particular applications
 - Problems printing from within SITS and pdf's
 - Admin staff needs are different to an academic
 - Travel distance to an mfd

3.6 Support overhead

For the period of the pilot Ricoh have provided the application support of the Equitrac system and configured the Follow Me/Follow You queues. This would transfer to UEA for campus wide roll out.

SSF IT staff have provided local support to users and ITCS have supported the server hardware and desktop packaging as well as any testing and first and second level fault finding.

3.7 Ricoh multi function devices

The multi function devices supplied by Ricoh for the pilot have proved to be reliable, well constructed and supported, and appropriate, which is consistent with UEA's long term experience of the supplier. The approach taken was to implement standard models for monochrome and colour devices - MPS 7001 (70cpm) and MPC 4501 (45cpm) respectively.

4 Costs and the potential for savings associated with campus wide roll out

4.1 Pilot costs

As stated earlier, Ricoh have facilitated the pilot at nil cost, which is appreciated. This includes provision of the Equitrac licence and application support; staff time which has included project management and professional services; regular conference calls with UEA; a loan mfd for technical project team testing.

The devices which are deployed for the pilot users are on the standard rental arrangements, as per the national agreement, which the UEA Purchasing Office has overseen. Normal quarterly rental and click costs therefore apply.

4.2 Costs

Appendix C provides a summary of Ricoh charges for purchasing or renting the Managed Print Service system solution with 139 multi function devices configured for operation. It should be noted that to confirm actual costs a campus wide audit would be required. Subject to this proviso, and as it is proposed to follow the established practice for UEA to rent, the following table shows the headline indicative costs inc VAT, for rolling out the Equitrac based solution.

	Ricoh charges	Per Qtr	12 month	60 month contract
1.	Buy out of 42 non- Equitrac compliant mfd's from existing contract	£1,180	£4,720	£23,600
2.	Rental of 100 new mfd's	£26,999	£107,996	£539,980
3.	Retained fleet of 39 mfd's	£19,216	£76,864	£384,320
4.	Java/Postscript/Print/Scan compatibility add-ons for 39 existing Equitrac compliant devices	£983	£3,932	£19,960
5.	Equitrac Enterprise licence inc embedded firmware and card readers for 139 devices	£9,167	£36,668	£183,360
6.	Project management – installation and consultancy for campus wide roll out (see notes below)	£1,814	£7,256	£36,280
	Total	£59,359	£237,436	£1,187,500

Notes:

Items 1, 4, 5, 6 are costs directly associated with the Equitrac Managed Print Service system. Whilst there could be some relatively small variation, it is reasonable to assume that a total of 139 devices is realistic based on the findings of the Ricoh audit report for Arts and the subsequent report for TPSC NBS and SSF Admin Floor 1 EDU.

Item 6 – this charge should be regarded as indicative only and would be subject to a detailed roll out plan being developed.

4.3 Copier click and printing costs

The Arts Building audit report identifies:

- the average cost for copying in a combination of monochrome (99.6%) and colour(0.4%) as 1.24p/copy with a volume of 4,443,564/year
 - the average cost of printing on local printers and networked laser jets in a combination of monochrome (89%) and colour(11%) as 6.62p/copy with a volume of 1,696,398/year
 - the volume split is copying (72%) and printing (28%)
- and
- Current annual copying volumes (excluding Print Services) are 3,932,979 monochrome and 92,802 colour at an indicative cost of £48,769
- then
- It can be calculated from the above that 1,536,903 is representative of the annual printer volume (4,025,781x1,696,398/4,443,564)
- therefore
- the total indicative annual copier click cost for this printer volume would be 1,536,903 x 1.24p = £19,058

The combined annual cost for campus copying (ex Print Services) and printing is £144,217 inc VAT.

4.4 Savings:

4.4.1 Desktop printing and printer consumables (not including paper) provides the most significant potential source for savings were desktop printers to be removed. The Purchasing Office have analysed expenditure with suppliers and their finding are in the following table:

	UEA Purchasing Office findings re. desktop printer and consumables	Per Qtr	12 month period	60 month period
1.	Expenditure from 1st August 2010 to 23 May 2011 with XMA and Supplies Team	£9,900	£39,600	£198,000
2.	Expenditure from 1st January 2011 to 31st March 2011 with Office Depot (for printer consumables only)	£29,150	£116,600	£583,000
	Total	£39,050	£156,200	£781,000

Note:

1. Details of the actual number of staff desktop and networked laser jet printers currently deployed is not readily known. However based on the most up to date campus wide information available from 2008 there were in excess of 1700 units
2. Toner and maintenance is inclusive in Ricoh MFD rental charges

4.4.2 Ricoh predict that moving to a new mfd contract with Ricoh (Part A of the original tender) will deliver savings of £1,319 per quarter and £26,380 over 60 months

4.4.3 Sustainability – the audit report for the Arts building predicted an annual energy consumption reduction from 20.37Kw/h to 10.77 Kw/h (47%) and a fall in CO2 emissions from 11 tonnes to 5.67 tonnes with the removal of 210 desktop and networked laser jet printers and the provision of 22 multi function devices to provide the functionality.

The annual saving in energy costs were predicted at £1019.

4.5 Summary of costs and savings specifically associated with the Equitrac Managed Print Service system.

The following table summarises the relevant expenditure and savings indications from 4.2 to 4.4.3 above

		Per Qtr	12 month period	60 month period
1.	Expenditure – Ricoh costs combined	£49,101	£196,403	£982,015
2.	UEA Savings	-£40,383	-£161,535	-£807,675
3.	Total	£8,717	£34,868	£174,340

4.6 Were the UEA standard network printing approach to be taken, thereby removing the Equitrac Managed Print Service element and by using MFD's instead of local printers and networked laser jet printers, then additional savings could be achieved reducing the costs of printing significantly revising the table in 4.5 as follows:

		Per Qtr	12 month period	60 month period
1.	Expenditure – Ricoh costs combined	£35,957	£143,827	£719,135
2.	UEA Savings	-£40,383	-£161,535	-£807,675
3.	Total	-£4,427	-£17,708	-£54,905

5. Conclusions

5.1 Ricoh generally worked and engaged well with UEA to enable the project's evaluation of their product and services. The project management focus was increased as the roll out was planned and implemented. The relationship with Ricoh regarding this project was unique for

them as there was no financial commitment made by UEA. It is appropriate to gratefully acknowledge the contribution that Ricoh and its staff have made.

5.2 The Managed Print Service approach can deliver savings to the campus which are predicated upon the removal of local deskjet and networked laser printers and the replacement with strategically positioned networked MFD's.

5.3 The Managed Print Service approach does make a contribution to UEA's sustainability objectives.

5.4 The culture change associated with the removal of local deskjet and networked laserjet printers has to a large extent been achieved in the pilot areas of TPSC NBS and SSF Admin Floor 1 EDU where the geographical location of fewer networked mfd's was already in place. However other staff who are used to having a printing device nearby may consider the walk to a device to be waste of their time.

5.5 The feedback from staff in the pilot raises significant enough concerns that the Equitrac based Managed Print Service is not sufficiently smooth enough for what should be an everyday routine process.

5.6 The IT Integration project changes the model of IT support for the campus. Based on the experience of the pilot there is not sufficient capacity to support the interaction with the Equitrac Managed Print Service required from local support.

5.7 Support of Equitrac would require nominated staff to gain knowledge and develop the skills to carry out the routine system maintenance, updating follow me/follow you virtual queues, configuring devices and general troubleshooting.

5.8 SSF were able to adopt a single account code approach to each AD group thereby removing the need to enter a UEA account code at the device. For campus wide roll out finance teams would need to consider whether a similar approach to that of SSF can be adopted in the event that Equitrac or a similar management accounting model were to be introduced.

5.9 There are frequent interoperability concerns related to Equitrac interaction with standard UEA applications and SITS, which has the potential for users to experience difficulties for routine tasks, and which cannot be pinned down to one particular cause.

5.10 The USS concerns and HSE guidance regarding the corridor location of mfd's in areas of high footfall must be factored into any plans for campus wide roll out. The EBD Space Manager has been asked to factor this into space planning work.

5.11 Ricoh mfd's are appropriate and the support arrangements meet UEA's needs.

6. Other options

6.1 SSF took the opportunity to successfully adopt a rationalisation approach to the deployment of printing devices when providing printing facilities in their new accommodation in TPSC for NBS and the Faculty Administration office on Floor 1 of EDU, providing a model approach which can be applied to the campus as such opportunities arise.

6.2 There is confidence campus wide in the standard UEA approach to supporting staff network printing. The Library has successfully trialled the use of a Ricoh mfd in a central office for staff printing which can support secure release.

6.3 Student printing was not included in the pilot for whom Papercut has been implemented, all be it in a restricted environment. There is a site licence for Papercut which could be applied to staff printing but it should be noted that further detailed proof of concept work would be necessary to confirm its suitability for this application. The availability of more locations for support for student printing would be attractive to that body as expressed at the recent ITC

Forum. However it would be necessary to ensure that staff printing was not compromised if a shared device approach were taken to also support student printing.

6.4 As an alternative reporting tool, PCounter can be implemented to monitor and report upon network printing activity if management information is considered to be important rather than a solution which forces rules about usage. There is experience in SSF where PCounter was used prior to the Managed Print Service pilot being rolled out.

7. Recommendations

ISSC are requested to support the following.

7.1 That Equitrac is not adopted as a tool for providing a Managed Print Service at UEA, because of the experience of end users, the support overhead and the costs associated with its implementation and use .

7.2 The solution of standard UEA network printing is implemented as a default solution for staff printing.

Or

7.2 The solution of UEA standard network printing is implemented as the default solution pending further investigation of Papercut.

7.3 Wherever space changes provide the opportunity, a rationalised approach to the provision of printing arrangements to mfd's is adopted on the model developed by SSF. USS are to be included in the process to ensure there is location agreement.

7.4 ISD will determine if Faculties have a requirement for management information reports.

7.5 ISD explores the scope for widening the provision of student printing facilities further across campus.

7.6 The Purchasing Office formalise Part A of the tender with Ricoh for the supply of mfd's to the campus

CB 8/6/11