ROTHERHAM BOROUGH COUNCIL

1.	Meeting:	Deputy Leader
2.	Date:	October 8th 2012
3.	Title:	Bring Your Own Device\Good For Enterprise
4.	Directorate:	Resources

5. Summary

The purpose of this report is to seek approval for the adoption of a 'Bring Your Own Device' (BYOD) policy for RMBC. BYOD is an initiative which enables RMBC employees to access their RMBC email, contacts, Intranet and calendar from a non-RMBC owned smartphone or tablet.

6. Recommendations

The Deputy Leader is asked to:

- **Support the proposed BYOD policies.**

- **Support an extended trial of Good For Enterprise as the authorised means for access to RMBC data from personal smartphones and tablets.**

- **Support the proposal to present a further report on BYOD, including a detailed financial impact assessment at the end of the trial.**

7.   Proposals and Details

7.1 Introduction

Bring Your Own Device (BYOD) is the name given to a movement\trend which sees an organisation's employees using their personal computers, tablets and smartphones to access the organisation's IT systems and data.

BYOD is not new – it has been common place in the private sector for several years. Adoption of BYOD in the public sector has been slower due to the more sensitive nature of the data being accessed and concerns around data security. Recent developments in technology mean that Local Authorities now have the option to allow employees to access Council systems from personal devices.

The RMBC ICT Strategy (2011 to 2015) includes an increase in mobile working among RMBC employees as one of its aims. The ICT Strategy capital budget includes provision for the purchase of tools to foster a more agile workforce.

7.2 The Scope of BYOD in RMBC – App Vs. Thin Client

There are two main ways of providing access to RMBC data from employee owned devices – these are App and Thin Client:

- **App** – Apps (short for 'applications') are small downloadable programmes that can be used on tablets and smartphones. These are developed by companies or individuals and then made available for download from the AppStore (Apple) or Market Place (Android).

- **Thin Client** – under the current model of application delivery we have most of our software programmes installed on the end user's computer. This makes it difficult for users to switch between devices as they are 'tied' to the machine which has their systems installed. Under the Thin Client model the applications are installed on servers in our data centre and no processing is done on the end user's device. This gives much greater flexibility and choice as to the variety of devices that we can enable access from.

BYOD can apply to employee owned laptops\desktops, tablets (such as iPads) and smartphones (such as iPhones). The method of accessing the Council's systems and data varies depending on the type of device being used:

- Smartphone – access is via an app
- Tablet – access is via an app or thin client
- Computer – access is via thin client

Each of the access technologies (app or thin client) allows different levels of access to RMBC's systems and vary considerably in the financial investment and infrastructure that they require:

	App	Thin Client
Email	✔	✔
Calendar	✔	✔
Intranet	✔	✔
Internet	✔	✔
Contacts	✔	✔
Cedar	✔	✔
YourSelf	✔	✔
EDRMS	✔	✔
G:\ and H:\ drives	✘	✔
Locally installed line of business systems	✘	✔
Technical complexity	Low	High
Financial investment	Low	High

RMBC already uses thin client technologies to provide faster access to some of its systems but this is currently only possible from an RMBC owned computer. We are working towards an increased use of thin client and this is likely to include the facility to access RMBC systems from an employee's own personal computer. This new service is still someway off, however, and it is likely to be 2013 before we can support BYOD with respect to non-RMBC computers – this will be the subject of a further paper to Corporate ICT and Information Governance Board, SLT and Members in 2013. Increasing the use of thin client technologies is one of the projects in the RMBC ICT Strategy and has been allocated a capital budget of £150,000 over 4 years.

Enabling BYOD on smartphones and tablets is a far quicker and easier task than with laptops because a number of apps are now available to facilitate access to email, calendar, contacts and Intranet. Because of these considerations and because the current demand for BYOD from RMBC Members and officers relates to their phones and tablets rather than their personal laptops, the scope of BYOD considered by this report will be limited to app enabled access from smartphones and tablets.

7.3 The Benefits of BYOD for Smartphones and Tablets

There has been a demand for access to RMBC email from non-RMBC smartphones for several years with Members and senior managers being the customers who have most frequently asked for this facility. There are numerous benefits to the employee in utilising their own device:

- Many people already own a sophisticated smartphone or tablet and wish to use it for RMBC business.

- Employees like the freedom to be able to make personal calls from their own handset. (They can do this from an RMBC handset but the process of identifying personal numbers by prefixing them with an asterisk does not always work and is not universally adopted. This means that it is likely that RMBC is currently funding personal calls made by employees.)
- Employees only have to carry one device.
- People are already familiar with these applications from their non-work life thereby assisting in the blending of consumer and business lifestyles.
- Employees generally prefer the more intuitive 'tap and swipe' interfaces to the more 'fiddly' keyboards that are used by Blackberrys.

The main benefits of BYOD to RMBC are:

- Ability to respond to requests from Members and officers to access RMBC emails and other data from their personal smartphone or tablet.
- Increased efficiency of staff through access to emails, calendar and the Intranet when away from their computers\office.
- Future cost savings resulting from reducing the number of RMBC devices in use (see section 8).

7.4 Good For Enterprise (GFE)

In March 2012 RMBC was approached by Vodafone (the supplier of our mobile phones and Blackberrys) to offer the Council a trial of a BYOD product called Good For Enterprise (GFE). GFE is an app that works on Android and iOS (Apple's operating system) phones and tablets to allow access to RMBC email, calendars, contacts and Intranet.

The GFE app was deployed to the personal phones or tablets of over 30 RMBC employees and Members with the trial running for 6 weeks. Feedback was overwhelmingly positive – so much so that the Corporate ICT Manager was asked by Members to extend the trial indefinitely pending formal adoption of the product via an SLT report (this document). In light of this a handful of our GFE trial accounts (i.e. those belonging to Members and other VIPs) were converted to live accounts at the end of the trial with monthly fees (see Section 8) being charged to the relevant department's cost centre. The GFE accounts for other users were shut down at the end of the trial period.

The GFE trial revealed that the product is fit for purpose. The trial did result in feedback to GFE with requests for new features and enhancements but none of these are significant enough to prevent RMBC adopting GFE as its BYOD solution.

The option to procure Good For Enterprise from Vodafone is included in RMBC's corporate Vodafone contract. Because of this RMBC is able to procure GFE without the need to conduct a competitive tendering exercise.

7.5 Security Considerations

On November 15th 2010 RMBC's Internal Audit Section published a report in to the feasibility of allowing employees to access RMBC systems from their smartphones which concluded that, at the time of writing, there was no secure way to deliver this functionality.

On November 22nd 2010 the Internal Audit report was presented to the eGovernment Board which recommended that RMBC email should only be accessed from non-RMBC devices via Outlook Web Access ('MyMail') using the devices browser. This recommendation was subsequently supported by SLT and Cabinet.

In the intervening years there have been technological advancements which mean that there are now downloadable apps which allow access to an organisation's data from employee owned devices. The apps have the added advantage in that they store all of RMBC's data within the encrypted app and it can be easily deleted, remotely, in the event that the device is lost.

In July 2012 RMBC's Internal Audit conducted a review of security of the Good for Enterprise app and concluded that GFE is as secure as email access from a RMBC issued Blackberry. Internal Audit have recommended a minimum level of security to which the app should be configured – these include strong passwords and time out after periods of inactivity. A full list of security controls is included in the BYOD policy at Appendix 1.

7.6 Legal and HR Considerations

A proposed policy for BYOD is included at Appendix 1. All employees wishing to use BYOD will be expected to sign this policy.

Following consultation with RMBC HR it has been determined that it is not possible to reimburse employees for work related calls made from their personal phone as this would add a new layer of claims processing which currently does not exist within the council and would result in an increase in administrative burdens and complexity around Payroll processing in relation to taxation (as call costs would be taxable). Where an employee needs to make a large number of work related calls then it is likely that an RMBC issued device will be more appropriate than BYOD.

Similarly we cannot make a contribution towards the employee's data usage or recompense individuals who incur data usage charges as a result of accessing RMBC data via GFE. These restrictions are set out explicitly in the BYOD policy at Appendix 1.

Furthermore RMBC will not be liable for supporting the employee's personal device or reimbursing employee's in the event of devices being damaged whilst being used to access RMBC data.

There is some concern that BYOD will lead to a blurring of the work\personal life boundary that results in some employees feeling stressed, harassed or unable to 'switch off' from work. To help mitigate this risk BYOD users will be trained in the use

of apps such as 'Call Control' which can categorise a user's contact list in to 'work' and 'personal' contacts and, at the touch of a button, configure the phone such that work contacts are blocked as and when the user sees fit. In addition the user can set up their phone so that they can prevent their personal number being revealed when using their phone for work calls.

It is proposed that team leaders should be responsible for making the decision as to whether an employee should be granted access to BYOD (as is the current arrangement with RMBC Blackberrys and mobiles) and that team leaders will be encouraged to grant BYOD requests for all employees who are flexible or mobile workers.

7.7 BYOD and RMBC Blackberrys

For the purpose of this report it is envisaged that GFE will be used on employee's own personal devices rather than on smartphones and tablets owned and issued by RMBC. It is proposed that the use of BYOD\GFE should be entirely voluntary – i.e. it is not proposed that we should cease the practice of providing RMBC Blackberrys in favour of mandatory BYOD. There are two reasons for this:

- Because RMBC cannot subsidise and employee's calls or data use it seems likely that the majority of RMBC employees will not be willing to use their personal device. We will therefore need to continue to provide RMBC Blackberrys for the foreseeable future.
- RMBC has recently signed a new contract with Vodafone which commits us paying for all our current mobile phones and Blackberrys until July 2014. This means that we have to continue to pay for Blackberrys even if they are unused or returned to Vodafone.

After July 2014 the potential exists for RMBC to cease using Blackberry as its preferred email\phone device and to either mandate BYOD or begin using RMBC smartphones with GFE instead. There are many appropriate smartphones on the market which are significantly cheaper than Blackberrys.

In order to maximise savings and to encourage employees to use BYOD as opposed to RMBC Blackberrys it is proposed that all employees requesting a new Blackberry are asked to consider BYOD in the first instance.

8. Finance

In setting up the GFE trial it was necessary for RMBC ICT to create a virtual server to host GFE. This was done using existing infrastructure and at negligible cost to RMBC. Upon reaching the end of the trial period the same virtual server has become the live platform for GFE – again at negligible cost. GFE is priced as follows (these are charges to RMBC, not the end user):

- One off activation fee - £50 per user
- Monthly fee - £5.50 per month

These charges relate to each *device* that is enabled to use GFE – not each member of staff. If an employee wishes to use GFE on two devices – e.g. on their iPad *and* iPhone then RMBC will need to pay for two activation fees and two monthly fees.

The creation and activation of a new GFE account takes less than 10 minutes – Corporate ICT will, therefore, not need to charge for this service. There is, however, a small amount of work to do in supporting GFE in terms of processing change requests, seeking policy sign off (see Appendix 1), applying updates and unlocking accounts. It is proposed that the cost of this work is covered by charging a small monthly fee to the user meaning that the total cost to the user will be £6 per month – this charge could be reviewed in the light of operational experience.

The table below shows a comparison in costs to RMBC for Blackberrys and personal smartphones using GFE.

Item	RMBC Blackberry	BYOD with GFE
Handset	£155	NA
Setup Charge	£55.90	£50.00
Supplier Monthly Charge	£11.25	£5.50
Average monthly call costs	£5.19	NA
Total cost of ownership for year one	£408.18	£116
Cost per year in subsequent years	£197.28	£66.00

RMBC currently uses 510 Blackberrys at an annual cost to RMBC of £100,612 but because the Council is contractually committed to paying for all our Blackberrys until July 2014 we cannot generate a short term saving by switching Blackberry users to BYOD. Until July 2014 each Blackberry user who switches to BYOD will cause a net increase in costs for RMBC – i.e. RMBC will pay for both the Blackberry charges and the GFE charges for that individual.

The risk of RMBC being left with unused Blackberrys for which a payment must be made to Vodafone is reduced when we consider that there are more than 100 requests for new Blackberrys each year:

- **2011** – 140 new Blackberrys issued
- **2012** – 135 new Blackberrys issued to date

Furthermore we can convert an unused Blackberry account to a new mobile phone account which gives us further means to mitigate the risk of paying Vodafone for unused devices. This notwithstanding, RMBC should remain cognisant that:

- If the rate of issue of new mobiles or Blackberrys exceeds the rate at which existing Blackberry users switch to BYOD then there will be no net increase in costs to RMBC.

- If more existing Blackberry users switch to BYOD than there are new requests for mobiles or Blackberrys then there will be a net increase in costs to RMBC.

It is not possible to be precise about how many RMBC employees will wish to adopt BYOD as this will depend entirely on their attitude towards the non-subsidy of calls and data. Findings from the initial trial indicated that Members and senior officers are most willing to adopt BYOD as are individuals who already have unlimited data and call contracts (as they can be sure that will incur no cost as a result of GFE use). Employees outside of these groups are less likely to migrate to BYOD.

The financial business case is further complicated when we consider that the GFE trial has resulted in some employees indicating that they intend to return their RMBC laptops and VPN tokens as they feel that GFE has rendered this equipment redundant. It is not possible to predict whether this behaviour will be widespread amongst BYOD users but the business case would be strengthened if BYOD and GFE leads to a reduction in the amount of ICT equipment which RMBC provides.

It is because of our inability to predict user behaviour that a further trial of GFE is proposed. By advertising GFE more widely in RMBC and monitoring uptake and user behaviour for a period of 6 months we will be able to better understand the financial impact on RMBC. At the end of the trial a report will be presented to Corporate ICT and Information Governance Board, SLT and Members which explains how GFE has affected use of RMBC Blackberrys, laptops and VPN and sets out the financial impact of continued use of BYOD and GFE.

9. Risks and Uncertainties

There are several apps available that enable smartphone access to RMBC data in an insecure manner. Anecdotal evidence suggests that some employees are using these apps and we have no technical means to prevent their use - if RMBC does not provide its employees with a corporately sanctioned and controlled BYOD product and policy there is a risk that employees will continue to use insecure access routes and products and thereby risk the loss of RMBC data.

Furthermore, RMBC email can already be accessed from smartphones via 'MyMail' but this is method of access is much less secure than GFE and increases the risk of data loss.

There is a risk that the number of Blackberry users electing to switch to BYOD will exceed the number of new Blackberry requests. In this scenario RMBC would see Blackberry usage levels fall below 510 devices and would begin paying Vodafone for unused devices. This risk can be mitigated by careful monitoring of all Vodafone contracts and BYOD adoption levels as described at section 8.

10. Policy and Performance Agenda Implications

Policy and Performance issues are considered elsewhere in this report.

11. Background Papers and Consultation

- Strategic Leadership Team (01/10/12)

- Corporate ICT, Information Governance and Web Strategy Board (27/09/12)
- RMBC ICT Strategy (2011 to 2015)
- Internal Audit Report (November 2010) – Access to RMBC email from Smartphones
- Internal Audit Report (July 2012) – Bring Your Own Device
- Human Resources, Procurement and Internal Audit have been consulted on security, financial and HR related issues in relation to BYOD.

12. Contact Names:

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Appendix 1

RMBC Bring Your Own Device (BYOD) Policy for Smartphones and Tablets

The voluntary use of a smartphone or tablet in connection with RMBC's business is a privilege granted to employees through approval of their management. RMBC reserves the right to revoke these privileges in the event that users do not abide by the policies and procedures set out below.

The following policies are aimed to protect the integrity of RMBC data and ensure it remains safe and secure under RMBC control.

References to the word "device" below includes, but is not limited to, iOS, Android, BlackBerry, iPhone, iPad, tablet or other smartphones. Please note that Good For Enterprise does not currently work on Windows mobiles devices.

Security

Users of Personal Smartphones or tablets must agree to all terms and conditions in this policy to be allowed access to those RMBC services.

1. Irrespective of security precautions mentioned here, you are expected to use your device in accordance with the employee\Member code of conduct and the RMBC IT Acceptable Use Policy.
2. Government Connect (GCSx) email cannot be used on any mobile device regardless of whether it is RMBC issued (Including Blackberrys) or privately owned.
3. In the event of loss or theft of your device, you must inform RMBC ICT Service Desk immediately.
4. Access to RMBC data from your device must be via an RMBC sanctioned app (currently Good for Enterprise (GFE)).
5. GFE will lock after 15 minutes of inactivity, requiring re-entry of your password.
6. GFE will lock your account after 10 failed login attempts.
7. GFE includes password rotation every 90 days.
8. Passwords must be of the following strength:
    a. The password must be a minimum of 7 characters
    b. The password must contain at least one letter or number (except on devices that cannot accept alphanumeric passwords)
    c. The password must not be one of your previous 2 passwords
9. The GFE app and all data contained within it will be remotely deleted if:
    a. you lose the device
    b. you terminate employment with RMBC
    c. the IT section detects a data or policy breach or virus; or
    d. the IT section detects that the device is 'hacked' or tampered with

Business Calls and Data Usage

A personal smartphone can be connected to the RMBC infrastructure or services, but the user is personally liable for their device and all supplier service costs. Users

of personal smartphones are not eligible for reimbursement of expenses for hardware or supplier services.

An employee may use their personal device to make work-related calls but RMBC will not reimburse the employee for the cost of these calls.

Employees with a frequent requirement to make work related calls from a mobile device will need to choose between using GFE to access emails from their personal phone in conjunction with a RMBC mobile to make calls (not Blackberry) or using a RMBC Blackberry only. Employees are not permitted to use GFE if they are RMBC Blackberry users. Any employee wishing to use GFE must relinquish their Blackberry if they have one.

It is the employee's responsibility to understand their own mobile phone contract and data usage tariffs. RMBC will not reimburse the employee for costs incurred relating to data usage as a result of accessing RMBC emails and other services. Employees who do not have an unlimited data usage contract are encouraged to monitor data consumption when using GFE – most network providers offer free downloadable apps to help with this.

Disclaimer

RMBC hereby acknowledge that the use of a personal smartphone in connection with RMBC business carries specific risks for which you, as the user, assume full liability. These risks include, but are not limited to, the partial or complete loss of data as a result of a crash of the operating system, errors, bugs, viruses, downloaded malware, and/or other software or hardware failures, or programming errors which could render a device inoperable.

RMBC ICT are responsible for deploying GFE, resetting\unlocking GFE passwords and uninstalling GFE when necessary. RMBC ICT will not offer any support to personal devices over and above this. There is no Service Level Agreement associated with the GFE product – remediation will be approached on a best endeavours basis.

By signing this document you confirm that you have understood the conditions of GFE use and that you will abide by them. You are also confirming that have completed the RMBC Information Security eLearning module and that you understand, and agree to abide by, the RMBC Information Security Policy.