The University of Edinburgh

Telephone System Renewal Project Board

PAPER B
Telephone Survey: Analysis and Discussion

Brief description of the paper
In late January and early February 2013, a survey was conducted regarding the University’s current usage of and future requirements for its telephone system. This paper reports results from the survey, and discusses implications for the future of the University’s telephone system.

Should any Project Board member with an account on the Bristol Online Survey tool wish to access the raw survey results, they should contact the author.

Action requested
The Project Board is invited to consider and comment on the survey results and discussion.

Resource implications
Does the paper have resource implications? No

If ‘Yes’, in which section(s) of the paper are they described?

Risk Assessment
Does the paper include a risk analysis? No

Equality and Diversity
Does the paper have equality and diversity implications? No

Freedom of information
Can this paper be included in open business? Yes

Any other relevant information

Originator of the paper
Chris Adie, Information Services.
Telephone Survey: Analysis and Discussion

Chris Adie, 28 February 2013

1 Introduction

Between 21 January and 10 February 2013, a survey was conducted regarding the University’s current usage of and future requirements for its telephone system. The survey was aimed at telephone system users, assumed to be almost exclusively University staff. The survey was advertised (with the help of Communications and Marketing) using a single email message to the University’s “all staff” list. This document analyses the results and discusses implications for the future of the University’s telephone provision.

2 Return rate

There were 1289 responses in total. Given a staff headcount of 12301, this represents a 10.5% return rate. The following table shows the number of respondents from each part of the University, and their respective roles. The rows are the response to the question “Which role most nearly describes your job?”, while the columns relate to the question “Which College or Support Group are you most closely associated with?”

<table>
<thead>
<tr>
<th></th>
<th>College of Science &amp; Engineering</th>
<th>College of Humanities &amp; Social Science</th>
<th>College of Medicine &amp; Veterinary Medicine</th>
<th>Corporate Services</th>
<th>Student and Academic Services</th>
<th>Information Services</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic and/or research staff</td>
<td>204</td>
<td>172</td>
<td>145</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>531</td>
</tr>
<tr>
<td>Support staff</td>
<td>134</td>
<td>144</td>
<td>120</td>
<td>102</td>
<td>82</td>
<td>116</td>
<td>698</td>
</tr>
<tr>
<td>&quot;Staff-like&quot; visitor</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>University senior management</td>
<td>7</td>
<td>7</td>
<td>14</td>
<td>12</td>
<td>5</td>
<td>3</td>
<td>48</td>
</tr>
<tr>
<td>Postgraduate student</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Totals</td>
<td>351</td>
<td>325</td>
<td>282</td>
<td>118</td>
<td>89</td>
<td>124</td>
<td>1289</td>
</tr>
<tr>
<td>Return rate</td>
<td>12%</td>
<td>9%</td>
<td>11%</td>
<td>6%</td>
<td>14%</td>
<td>19%</td>
<td>10.5%</td>
</tr>
</tbody>
</table>

The “Return rate” row at the bottom shows the total number of responses from the College/Support Group divided by the staff headcount in that area as at 1 February 2013\(^1\). The high return rate from

\(^1\) http://www.ed.ac.uk/schools-departments/human-resources/about/facts-figures
Information Services perhaps reflects a strong interest by information [technology] professionals in the subject, while the low return rate from Corporate Services may be due to staff who are not “information workers” (e.g. cleaning and manual staff) and thus may not have been aware of the survey. Such staff may be less frequent users of the telephone system.

In view of the low number of “staff-like visitor” and postgraduate respondents, these responses have been ignored in the following analysis except where otherwise stated.

3 Analysis

The survey asked two kinds of questions. Certain questions focussed on current behaviour and experience, while others focussed on the usefulness of possible additional features. These two categories are addressed in the two following subsections. The third subsection focuses on the “free text” responses to questions associated with future provision.

3.1 Current provision and behaviour

There were two basic questions around usage: how often, and what kind of phone. A third question addressed mobile phone use. The following tables report the responses, cross-tabulated by job role. The Overall column includes staff-like visitor and postgraduate responses.

<table>
<thead>
<tr>
<th>How often do you use the phone at work?</th>
<th>Academic/research</th>
<th>Support staff</th>
<th>Senior managers</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many times a day</td>
<td>12%</td>
<td>42%</td>
<td>56%</td>
<td>30%</td>
</tr>
<tr>
<td>A few times a day</td>
<td>35%</td>
<td>37%</td>
<td>35%</td>
<td>36%</td>
</tr>
<tr>
<td>A few times a week</td>
<td>39%</td>
<td>15%</td>
<td>8%</td>
<td>25%</td>
</tr>
<tr>
<td>Very occasionally</td>
<td>14%</td>
<td>5%</td>
<td>0%</td>
<td>9%</td>
</tr>
<tr>
<td>Never</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Support staff and senior managers use the phone more frequently than academic/research staff.

<table>
<thead>
<tr>
<th>Thinking about the phone you use at work most often, is it:</th>
<th>Academic/research</th>
<th>Support staff</th>
<th>Senior managers</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>A University telephone extension for my sole use</td>
<td>63%</td>
<td>74%</td>
<td>83%</td>
<td>69%</td>
</tr>
<tr>
<td>A University telephone extension shared with others</td>
<td>20%</td>
<td>18%</td>
<td>2%</td>
<td>19%</td>
</tr>
<tr>
<td>A mobile phone or smartphone</td>
<td>14%</td>
<td>7%</td>
<td>13%</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Free-text responses in the “Other” category mainly indicated the use of non-University (e.g. NHS, ROE) phones, or a small number of University phone lines not part of the main telephone system.

<table>
<thead>
<tr>
<th>Do you currently use a mobile phone or smart mobile phone (&quot;smartphone&quot;)? (If you use more than one, which do you use most frequently for work?)</th>
<th>Academic/research</th>
<th>Support staff</th>
<th>Senior managers</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal smartphone</td>
<td>61%</td>
<td>56%</td>
<td>54%</td>
<td>58%</td>
</tr>
<tr>
<td>University smartphone</td>
<td>1%</td>
<td>5%</td>
<td>27%</td>
<td>4%</td>
</tr>
<tr>
<td>Personal mobile phone</td>
<td>28%</td>
<td>25%</td>
<td>13%</td>
<td>25%</td>
</tr>
<tr>
<td>University mobile phone</td>
<td>1%</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>I don't use a mobile phone or smartphone</td>
<td>9%</td>
<td>10%</td>
<td>2%</td>
<td>9%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Provision by the University of mobile/smartphones varies across Colleges and Support Groups:

<table>
<thead>
<tr>
<th>S&amp;E</th>
<th>HSS</th>
<th>MVM</th>
<th>CSG</th>
<th>SASG</th>
<th>IS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>1%</td>
<td>8%</td>
<td>25%</td>
<td>10%</td>
<td>11%</td>
</tr>
</tbody>
</table>

In addition to these basic questions, a range of other questions probed current practice in video and conference call use. These questions yielded a considerable amount of useful information, some of which is discussed in section 4.4. However the detailed statistics are not presented here in the interests of space.

### 3.2 Future provision

Fourteen questions were asked about the usefulness (or in one case, importance) of potential features of a new system. The available responses were “Would not use”, “Somewhat useful”, “Very useful” and “Essential”. The following table shows the percentage of respondents in each demographic category who rated the feature as “Very useful” or “Essential”. The table is ordered by the overall proportion, computed by weighting the responses from each college/support group to account for the differing survey return rates.
### Feature

<table>
<thead>
<tr>
<th>Feature</th>
<th>S&amp;E</th>
<th>HSS</th>
<th>MVM</th>
<th>CSG</th>
<th>SAG</th>
<th>ISG</th>
<th>Academic/research</th>
<th>Support staff</th>
<th>Senior managers</th>
<th>Weighted overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of external participants in conference calls</td>
<td>70%</td>
<td>57%</td>
<td>65%</td>
<td>51%</td>
<td>58%</td>
<td>57%</td>
<td>76%</td>
<td>49%</td>
<td>81%</td>
<td>61%</td>
</tr>
<tr>
<td>Voicemail in email inbox</td>
<td>44%</td>
<td>46%</td>
<td>44%</td>
<td>57%</td>
<td>55%</td>
<td>48%</td>
<td>44%</td>
<td>48%</td>
<td>67%</td>
<td>47%</td>
</tr>
<tr>
<td>Smartphone calls over WiFi</td>
<td>43%</td>
<td>34%</td>
<td>48%</td>
<td>51%</td>
<td>35%</td>
<td>40%</td>
<td>46%</td>
<td>36%</td>
<td>65%</td>
<td>42%</td>
</tr>
<tr>
<td>Incoming calls optionally on mobile</td>
<td>39%</td>
<td>34%</td>
<td>41%</td>
<td>52%</td>
<td>29%</td>
<td>36%</td>
<td>46%</td>
<td>32%</td>
<td>58%</td>
<td>40%</td>
</tr>
<tr>
<td>Easy videoconferencing from computer</td>
<td>44%</td>
<td>38%</td>
<td>38%</td>
<td>35%</td>
<td>30%</td>
<td>28%</td>
<td>48%</td>
<td>29%</td>
<td>56%</td>
<td>38%</td>
</tr>
<tr>
<td>Fax in email inbox</td>
<td>32%</td>
<td>31%</td>
<td>40%</td>
<td>38%</td>
<td>38%</td>
<td>23%</td>
<td>32%</td>
<td>34%</td>
<td>44%</td>
<td>34%</td>
</tr>
<tr>
<td>Availability of presence information</td>
<td>28%</td>
<td>23%</td>
<td>28%</td>
<td>38%</td>
<td>44%</td>
<td>36%</td>
<td>21%</td>
<td>36%</td>
<td>31%</td>
<td>30%</td>
</tr>
<tr>
<td>Easy internal voice-only conference calls</td>
<td>23%</td>
<td>28%</td>
<td>34%</td>
<td>32%</td>
<td>28%</td>
<td>31%</td>
<td>30%</td>
<td>27%</td>
<td>46%</td>
<td>29%</td>
</tr>
<tr>
<td>Softphone at work</td>
<td>26%</td>
<td>22%</td>
<td>27%</td>
<td>23%</td>
<td>20%</td>
<td>20%</td>
<td>29%</td>
<td>19%</td>
<td>29%</td>
<td>24%</td>
</tr>
<tr>
<td>Softphone elsewhere</td>
<td>25%</td>
<td>21%</td>
<td>24%</td>
<td>19%</td>
<td>25%</td>
<td>21%</td>
<td>30%</td>
<td>17%</td>
<td>25%</td>
<td>22%</td>
</tr>
<tr>
<td>Integration of instant messaging with telephony</td>
<td>17%</td>
<td>22%</td>
<td>21%</td>
<td>31%</td>
<td>27%</td>
<td>26%</td>
<td>17%</td>
<td>26%</td>
<td>15%</td>
<td>22%</td>
</tr>
<tr>
<td>Usefulness of video in conference calls</td>
<td>31%</td>
<td>22%</td>
<td>19%</td>
<td>16%</td>
<td>13%</td>
<td>11%</td>
<td>32%</td>
<td>13%</td>
<td>38%</td>
<td>22%</td>
</tr>
<tr>
<td>Convert phonecall to video</td>
<td>21%</td>
<td>21%</td>
<td>23%</td>
<td>20%</td>
<td>19%</td>
<td>10%</td>
<td>27%</td>
<td>14%</td>
<td>40%</td>
<td>21%</td>
</tr>
<tr>
<td>Softphone at home</td>
<td>17%</td>
<td>18%</td>
<td>20%</td>
<td>11%</td>
<td>19%</td>
<td>16%</td>
<td>23%</td>
<td>12%</td>
<td>21%</td>
<td>17%</td>
</tr>
</tbody>
</table>

The top three features for each demographic category are indicated by a ranking number in brackets.

The top five features overall cover almost all the top-ranked features from each demographic category.

Further questions were asked regarding instant messaging, to find out whether people were prepared to share their “presence” information with the University in general (39% would probably or definitely share) or with their own selection of colleagues (56% would probably or definitely share).

Regarding softphones, 17% of respondents would prefer a softphone to a desk phone, while 54% would prefer a desk phone, the remaining 29% being undecided.
3.3 Free text responses

3.3.1 Softphone features
Question 5 asked “Is there anything ‘special’ which a softphone really needs to be able to do to make it useful?” Responses included not only feature requests but comments on potential advantages and disadvantages. The following summarises the most frequently-mentioned topics.

Features required
- Voicemail/answerphone support when the PC is off or the user is busy, together with other aspects of voicemail integration.
- The ability to run on non-Windows platforms, specifically Linux and MacOS.
- Integration with a personal address book and with a University-wide directory.
- The ability to set up conference calls.
- “Normal” phone system capabilities such as transferring calls, pickup groups, hunt groups, mute, audio volume control, independent ring volume, speed dial, and generating tones to navigate interactive voice response systems.

Advantages
- The major perceived advantage by far was the ability to receive calls to and make calls from a University extension, no matter where you were.
- Ability to type and talk at the same time without difficulty.

Concerns
- Whether the quality of the softphone audio will be adequate.
- Reliability, often linked to PC and/or network problems – not wanting to be without a phone if the PC or network is down.
- The difficulty of using headsets to answer calls, particularly when moving around.
- A wide range of other practical problems with headsets were mentioned, often around noise and disruption in shared office or lab space, with many respondents indicating a strong preference for normal or cordless handsets.
- Losing the ability to deal with confidential calls by taking a cordless phone to a more secluded location.
- Usability of the software.
- Inadequate PC hardware, speakers or headphones.
- No perceived advantage over using Skype or a mobile/smartphone.

3.3.2 Integrating mobile phones
Question 9 asked about other very useful or essential ways of integrating mobile phones with the University’s phone system. The most frequently-mentioned topics were as follows:

Features required
- The most frequently-mentioned requirement was the ability to receive calls made to a University extension on a mobile phone, and to make calls from a mobile phone as though they were coming from a University extension, all under the assumption that call charges would be zero, or would be reduced and paid for by the University.
Many respondents wanted the University to pay all, or a proportion of call charges and/or rental for mobile phones, or indeed supply them. Often this was where the respondent already makes significant use of a personal mobile phone for work purposes.

- Personal phone book and University directory access was a common requirement.
- Voicemail monitoring and management was another frequently-mentioned requirement.
- Extension management, call transfer, pickup group, caller ID and other “standard” telephone facilities were mentioned by a number of respondents.

**Concerns**

- A large number of respondents indicated strongly that they were not prepared to use their mobile phones for University business (although many others clearly did so). Often this was for financial reasons, but many respondents reported concern that increasing their availability in this way would compromise a healthy work/life balance.
- WiFi and phone signal reception was mentioned as an issue by a number of respondents, with Easter Bush campus and QMRI being particularly problematic for mobile reception.

### 3.3.3 Video calls

Question 14 asked about other video call facilities which would be very useful or essential.

**Features required**

- The ability to share a screen or window so that a document or other data could be discussed; shared control so that the other party (or parties) could edit or draw on the shared screen.
- Many respondents were interested in multiparty video calls.
- The ability to run on non-Windows platforms, specifically Linux and MacOS.

**Advantages**

- A number of respondents mentioned the benefits of using tools such as Skype or Collaborate to communicate with students, particularly when they or the respondent were off-campus.

**Concerns**

- Quality and reliability were concerns for a number of respondents.
- Many respondents indicated that they already used Skype or Collaborate, and did not see any advantage in introducing another system, particularly if interworking with those tools was not easy.

### 3.3.4 Conference calls

Question 21 asked about other conference call facilities which would be very useful or essential. The most common responses were very similar to question 14; additional issues mentioned were:

- The ability to record calls.
- The ability to dial in to University-hosted conference calls, with free or cheap call rates from abroad.
- A number of respondents mentioned the potential savings in travel time and carbon emission of conference/videoconference calls.
3.3.5 Email integration
Question 24 asked about other email/telephone system integration facilities which would be very useful or essential.

Features required
- Ability to receive SMS texts as email or to convert email to an SMS message.
- Ability to send emails (or PDF documents) as faxes.
- Email notification of missed calls (with caller ID).

Concerns
- A number of respondents wanted any email integration features to be kept as simple and straightforward as possible, otherwise they would not be used.

3.3.6 Instant messaging
Question 24 asked about other instant messaging facilities which would be very useful or essential.

Features required
- File transfer.
- Open, interoperable, cross-platform.
- Conversation logs.
- A large number of other features which only one or two people requested.

Concerns
- A large number of respondents were concerned about the disruption to productive work which IM might cause.
- Some other respondents were concerned that the University would “re-invent the wheel”, and that their current IM arrangements were satisfactory.

3.3.7 General comments
There were a large number of free-text responses to question 30, which asked about other very useful or essential phone system features. In many cases the responses reiterated requests or concerns already identified above; the list below comprises new or particularly prominent responses.

Features required
- Any new system should be easy and straightforward to use.
- A single personal extension number which could be forwarded to whichever device is most convenient at the time (“follow me”).
- Robust, reliable service with good quality audio.
- Better caller display: (a) internal caller names; (b) send appropriate outgoing caller ID.
- Better support for hearing loss.
- Easier control of telephone system features (e.g. call forwarding), particularly remotely.
- Better access to voicemail, particularly remotely.
- A number of responses requested features which are already available on the existing system, implying that these features are not visible or readily understood.
Concerns

- Concentrate on the basics and make sure they work well; don’t waste money on sophisticated new things which duplicate other existing services.
- Need to retain analogue phone capability for special situations – e.g. emergency use.
- Concern that phones unavailable if the network is down or power is off.

4 Discussion

What conclusions can we draw from the survey data which help to set the direction for the University’s telephone service?

4.1 Core Provision

It is clear from the responses, particularly the free text responses, that the University’s current telephone provision is valued by a majority of respondents. A small minority “don’t use it”, do not value it, or suggest that everyone should be issued with smartphones, but many respondents entreat the University to continue the core telephone provision and make sure it remains resilient, reliable and provides good quality audio.

Widespread mobile/smartphone distribution to replace the central telephone system would be a bold step, unprecedented to the author’s knowledge in any similar organisation. The evident diversity of telephone requirements and usage across the institution means that retaining a significantly-sized central telephone system is still necessary.

4.2 Unified Communication

Unified Communication (UC) products such as Microsoft Lync offer software-based telephony along with a range of other services, often centred on “presence” and instant messaging, but also offering audio and video conferencing capability. Usually such products work substantially better on Microsoft Windows than on other platforms (e.g. Linux) common in the University, and they have generally been developed for corporations.

The survey analysis raises the following issues which militate against the wide implementation of a UC product like Lync across the University:

- There is a relative lack of interest in softphones and in the integration of instant messaging and presence services with telephony, compared to other potential services mentioned in the survey.
- In most cases, those who value these new technologies are already using them (particularly Skype, Collaborate and a range of instant messaging tools) and they see no need for the University to provide a central system.
- The outward-facing nature of academic communication and collaboration demands widely-used tools, and academic staff would not be well-served by a communications system which was constrained by the reach of the University’s internal networks.
- The strong demand for cross-platform support for whatever software-based solution might be chosen is unlikely to be satisfied by current commercial UC products.
The survey provides no mandate for procuring a UC solution of the kind currently offered by the industry.

### 4.3 Mobility
The survey indicates strong interest in a telephony service which recognises the mobility of many staff. This mobility requirement covers those moving about in or near to an office, moving between office and lab, working outside the University, and working abroad. Features requested include:

- The ability to make and receive calls on a mobile/smartphone as though it was a University extension, with call costs being met by the University.
- Associating a University extension number with an individual, such that that individual could receive calls in whichever office or other location they happened to be (this is known as “follow me”).
- University Directory access from desk phones and mobile devices, with appropriate display of caller name on incoming calls.
- Remote management of call forwarding and voicemail features, including through a smartphone.
- Improved mobile signal reception.

Providing better support for mobile users will enable local University units to consider whether they can reduce their requirement for desk phones as part of the telephone system renewal project.

### 4.4 Conference calls
The survey also indicates considerable interest in conference calls, with effective and easy-to-use audio conferencing being perhaps more in demand than videoconferencing.

Regarding audio-only conference calls, the survey confirms our suspicions that the existing conference call provision through the University switchboard does not meet many respondents’ needs. Having to book the call ahead of time, the “dial-out” nature of the service and the consequent need to specify phone numbers in advance were highlighted as barriers. (However, the alternative “dial-in” approach was seen as a problem for collaborators in certain countries with very high international call rates.)

The survey highlights a range of alternative services which are now in use for audio conferencing, mainly Skype (without video), PowWowNow, BT [MeetMe] and Google Hangout.

For video calls and videoconferencing, Skype was by far the most popular service, although the conference feature is charged for. Apple Facetime and the JANET Videoconferencing Service (JVCS) were also popular, and often the same individual used multiple tools.

“Easy videoconferencing from a computer” was a particularly popular requirement from academic respondents. It may be that there is scope for facilitating this, by selecting an existing commercial system (Skype is an obvious choice) and (for instance) making it easier for staff to find colleagues on the system, or simplifying calling into/out of the University telephone system using Skype Connect.
4.5 Voicemail

Voicemail services are mentioned by many respondents, with the ability to receive voicemail notification by email, or even the voicemail message itself as an email attachment, being particularly requested. Better or easier management of voicemail and the ability to configure messages remotely are mentioned.