

Adoption Briefing: Firefox and Thunderbird Computer Software

Geoff Breach, UTS, September 2007

Introduction

This briefing paper introduces two pieces of Free Software – Firefox and Thunderbird – as candidates for adoption to 'supported' status within the Faculty of Business at UTS. The nature of Free Software is discussed and business benefits are presented. The author's own experience of using Firefox and Thunderbird, along with that of a selected number of customers, is provided in support of a recommendation that the two pieces of software be adopted.

Free Software and Open Source Computer Software

Whilst Free Software is typically provided at no cost, *Free* actually means *freedom*, not price (Stallman 2001a). Free Software is copyrighted computer software that is licensed on terms that give computer users certain rights, including the right to use and distribute the programs at will and without penalty (Perens 2001). Whilst *Free Software* and *Open Source Software* have slightly different philosophical grounding, it is acceptable in most circumstances to use the two terms interchangeably.

Whilst there are other benefits, in most non-technical contexts, the right to unrestricted distribution and the no-cost nature of the computer programs are the most significant features.

Quality and Motivation

Because Free Software is authored by highly skilled individuals who are in most cases formally educated computer programmers and professional computer system administrators (Lakhani & Wolf 2005) at the very leading edge of their respective fields (von Krogh & von Hippel 2006), the the apparently *laissez faire* mode of organisation that they adopt actually invokes a process of peer review on a scale that causes Free Software to be of very high quality and often better than equivalent commercially produced programs (Raymond 2001).

The computer programmers who author Free Software are volunteers (Breach 2007w) who benefit from their contributions by way of personal enjoyment, personal skill enhancement (Lakhani & Wolf 2005) and improved status amongst their peers (Bergquist & Ljungberg, 2001).

Business Benefits

Businesses that use Free Software benefit by gaining access to a competitive marketplace of technical support providers rather than being tied to a single vendor (Stallman 2001a).

Even in sectors – such as education and non-profit – where commercial computer software is heavily subsidised, organisations remain subject to onerous reporting requirements. Individuals from the non-profit sector interviewed by this author highlighted annual reporting requirements as a major cost associated with 'donated' commercial computer

software.

Organisations that have made a partial transition to Free Software have improved their negotiating position with large commercial software vendors in respect of the remainder of their needs (McFarlane 2005). Commercial computer software vendors have been far more prepared to negotiate favourable terms when the customer has a demonstrated alternative.

Business Risks

Because Free Software is authored by volunteers who set out primarily to 'scratch a personal itch' (von Hippel 2005)(Raymond 2001), situations can arise where programs are not updated or reviewed for extended periods of time. In the corporate context, this risk can be mitigated by careful selection of appropriate programs. The computer programs presented in this paper are the products of a very large and very active community that has substantial financial and commercial backing and registered not-for-profit status in the United States and the European Union. Stagnation of the software is not considered a risk in this case.

The two computer programs discussed in this proposal have known and well documented lineage – they are both direct derivatives of commercial products whose owner has formally consented to their production. The intellectual property (IP) based legal threats such as those that are the subject of the well-known *SCO v IBM* case refer to different and unrelated computer programs and are not considered to be a factor.

Mozilla Firefox

Mozilla Firefox (Firefox) is a world wide web (web) browser program that constitutes an alternative to Microsoft's *Internet Explorer*. Firefox has been available to the public since early 2004 and is generally accepted to hold about 15% market share at the present time.

Firefox has inbuilt capability to warn against malicious web sites and integrated access to a number of Internet search engines including Google. Firefox' most practical capabilities are its ability to open multiple web sites in a single instance of the program – saving computer memory and improving usability – and the ability to accept a wide range of added functionality in the form of 'plug in' programs.

Firefox' primary benefit lies in a security design that renders it immune to the vast array of malicious bugs, viruses and spy and advertisement programs that target Microsoft's Internet Explorer. It has been this author's consistent observation that customers who use Firefox rarely require assistance with malicious 'virus' infestations. (Conversely, customers who use Microsoft's Internet Explorer *and* allow their teenage children to access their computers regularly require time consuming maintenance to clear the computers of malicious programs!)

Firefox functions properly with UTS web sites including UTS Online, Project NEO, UTS Site Manager and the eBrary electronic book plug-in program offered by the UTS Library.

Mozilla Thunderbird

Mozilla Thunderbird (Thunderbird) is an electronic mail (email) program that serves as an alternative to Microsoft's *Outlook* and Qualcomm's *Eudora*. Visually, Thunderbird closely reflects Outlook's on-screen presentation and it has been this author's observation that

most customers adapt to the new program without difficulty. Thunderbird has capability to make secure connectivity to multiple electronic mail accounts and this has proven to be useful in situations where individuals need to access multiple sources of email – individual staff and student accounts, and personal assistants monitoring their manager's email. A particularly useful 'live' search capability helps customers to find specific messages quickly.

Thunderbird shares the same security architecture as Firefox, and so it enjoys an immunity to email-borne malicious programs. It has an ability to identify and isolate unsolicited advertising material and detects malicious 'phishing' email messages that are designed to mislead customers into supplying personal and bank account details.

Thunderbird's primary benefit lies in that its technical processes for managing email are consistent with formal industry standards, and so the technical failures that routinely occur with the Eudora program do not occur with Thunderbird.

Thunderbird has the capability to make secure connections to UTS email servers, and functions with the UTS on line electronic address book for assisted addressing of electronic mail and searching of staff details.

Practicality and Reliability

This author has used Firefox and Thunderbird continually since the programs became available to the public in mid 2004. Initial problems were observed when the programs were new, but the programs have matured to the point where they are both very reliable. It is this author's view that commercial application of both programs is entirely practical and appropriate at this time.

Increasing numbers of customers have been introduced to Firefox since late 2005 when the author's extended testing found the program to be appropriate for customer use. Most who chose to adopt Firefox report that they prefer it over Microsoft's Internet Explorer. Computers where Firefox is the only web browser in use are conspicuous by the complete absence of malicious software infecting those computers and particularly, as previously observed, where the customers accessing the computers include teenagers.

Currently, about two thirds of the computers within the School of Management have Firefox installed, and at least one third of customers in the School use Firefox exclusively.

UTS' Information Technology Department (ITD) includes Firefox in the standard configuration for classroom and laboratory computers.

Thunderbird's development initially trailed that of Firefox by about eight months, and so a smaller number of customers have been introduced to Thunderbird. Individuals who expressed frustration or experienced repeated problems with the technical flaws in Eudora have been offered Thunderbird as an alternative.

Within the School of Management, the Head of School, the School Manager, one Professor and several lecturers and members of administrative staff currently use Thunderbird as their email program of choice.

Problems with the Eudora Email Program

The Eudora program presents a particular challenge for technical support personnel, particularly in situations where customers exchange large amounts of email or keep

substantial archives of old email. Serious design flaws that cause Eudora to lose large amounts of email, to become inoperable when email with certain dates are received, and cause customers to inadvertently destroy historical records of file attachments by allowing them to edit and overwrite attached files present time consuming challenges for technical staff and bring a risk of record loss that is so high as to be inevitable.

Customers who have adopted Thunderbird after experiencing one or more of the above described problems have not experienced recurrences of the same or similar difficulties.

Recommendation

Both Firefox and Thunderbird are of sufficient utility that it is immediately appropriate for the Faculty of Business to recognise them as supported computer programs.

Firefox is, in this author's experience and opinion, appropriate for dissemination to any customer who chooses to use it or would, in the opinion of technical staff, benefit from the change. Firefox' relative immunity to malicious programs make it appropriate for technical staff to recommend adoption of Firefox where such problems occur. Subject to further assessment by technical staff, Firefox is likely to be suitable for adoption as a preferred standard at some point in the future.

Somewhat perversely, extended exposure to the unusual nature of the Eudora program means that some customers have initial difficulties transitioning to the more generic functionality of Thunderbird. Whilst Thunderbird has been tested by the author for a number of years and has been well accepted by those who use it, individuals whose only exposure to email has been via Eudora may not be immediately comfortable with a change. Those with experience in corporate environments or with previous exposure to other email programs will be happy with Thunderbird and will likely prefer Thunderbird over Eudora.

About the Author

Geoff Breach's twenty year career in Information Technology and Internet Security has seen him working in and consulting to every industry sector from international investment banking and pharmaceuticals to electronics, computer software, retail banking, fast food, industrial gases, government, defence, education and not-for-profit with customers in Sydney, Wellington, New York, London, Tokyo, Singapore, Hong Kong, Seoul and... Parramatta. He holds a Masters degree from the University of Technology, Sydney and now applies his penchant for solving impossible technical problems to his integrative research amongst the volunteers who author free and open source computer software.

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