

A Comparison of Online Electronic Commerce Assurance Service Providers in Australia

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Abstract

Assurance services have become important due to the medium in which Electronic Commerce (EC) is conducted. As the name suggests, EC takes place in a virtual environment and across geographical boundaries. In such conditions, customers find it difficult to verify the credentials of the online business, are sceptical of online trading and have real concerns about the security and privacy of their data and transactions. To bridge this trust gap, Electronic Commerce Assurances Services have recently emerged – to verify the credentials of EC businesses and to certify them in a manner in which the online user will be more confident when carrying out e-business. The main aim of this paper is to conduct a comparative study and analysis of four major assurance service providers currently active in Australia. This paper compares the service providers by the functionality of services provided and aims to discuss advantages and pitfalls with their use.

1. Introduction

According to the latest Forrester report in Dec 2000, about 250 million people had Internet access, a 50% growth over last year. Last year, Internet users surveyed used the Web to buy over US\$6.1 billion worth of books, computers, airline tickets, stocks and bonds, automobiles and a variety of other merchandise and services [1]. However, studies have shown that only 20 to 25% of the people who are online are willing to make a purchase online [8]. A Yankelovich Partners study sponsored by the American Institute of Certified Public Accountants (AICPA) found that consumers lack confidence in e-commerce. The study identified the following concerns about customers [20]:

- were worried about security online

- were not sure if there was a genuine business behind the Web site they were interacting with
- didn't know "if and when" they would receive the merchandise or services they ordered
- didn't like the traceability of transactions on the Internet (privacy of their personal information and transactions)
- were worried that they might become victims of electronic fraud.

The Yankelovich study also focused on the needs of the 75 to 80% of the population who were unwilling to make an online purchase. It highlighted that almost half of this group would be more willing to do so if the Web site displayed a "seal of approval" from a Certified Public Accountant (CPA) or Chartered Accountant (CA) that addressed their concerns. This was the basis for the development of the first online assurance service called - WebTrust by the public accounting profession in North America. Today many assurance service providers with different criteria of assessment exist in the market. The major providers who represent the online assurance sector in a unique way and who are operating in Australia, have been chosen for this research.

2. Methodology

Initially a preliminary review of the web revealed a study of WebTrust, along with other assurance service providers compiled for the Government of Australia¹. It was interesting to note that the majority of these services were primarily operating out of the US, with very few operating in Australia. Altogether, four major services operating in Australia were chosen for this comparison. Later in the research two² private assurance service came to light, but due to lack of substantial information they could not be incorporated into this research.

At the start of this study, a thorough literature review of Assurance services was conducted to understand the general theory and concepts [13,14]. This literature review was later incorporated into the research as a key element for defining the various criteria and issues used for comparison and also for formulating the questionnaire. This was later sent out to the four major assurance service providers. To understand the practitioner's point of view and to obtain a first hand experience of how the assurance service operates – interviews with the different assurance service providers were sought. Unfortunately, given the constraints in time with this research project, only one provider (Etick) obliged in time while the others referred us to their web sites where comprehensive data was found to enable the research comparisons to be made. The providers' web sites reveal comprehensive details of services, policy documents, procedures and the applicable costs and were a major resource for this research. Finally all the data from the different sources were collated and reviewed together and the criteria for comparison were developed. The

¹ http://www.noie.gov.au/projects/consumer/roundtable/webseals_comparative_table.htm

² www.pwcbetterweb.com and COLA – Both offered by PriceWaterhouse Coopers

intention of this study was not to rank any service – but to obtain a good understanding of how the service providers balanced their criteria of assurance and how each assurance issue was an important factor in providing assurance services to build customer trust and confidence in the online environment. A summary of the comparison of all the service providers studied was compiled, together with a future perspective on EC assurance service.

3. Major Features of each Assurance Service Provider

	WebTrust	Enshrine	SafeTrade	Etick
Promoters	Mainly AICPA (US) and CICA (Canada) – In Australia supported by ICAA.	KPMG and Dun & Bradstreet.	XMS GLOBAL and IMC Associates. Underwritten by HIH Insurance (10% stake)	NATA's audit and certification body NCS International, Baltimore, and the Hong Kong and Asia Pacific Customer Service Consortium
Conception date	1997	1999	October 1999	July 2000
Present Scope	Wide range of issues e.g. technology, business practice, internal control and privacy	Authentication and screening of online business only	Insurance service to prevent fraud and guarantee delivery of goods.	Issues revolving around Security, Privacy and Customer service.
Privacy	Yes	No	No	Yes
Assessment Assurance Mechanism	Independent Third party to perform extensive audit, typically WebTrust certified CPAs.	Authorized resellers with continuous verification of organization's details with legal databases.	The service provider i.e. SafeTrade will sign a contract with the client and as such no other control mechanism exists	Independent set of certified auditors perform audit based on the guidelines as set by ISABe
Frequency of Update	Quarterly	Every 2 years	Not Applicable	Annual
Cost of certification	Not Available	A\$1,750 for two years.	Initial fees + 50c per transaction premium charges.	A\$5000 per year
Certification Format	Digital Seal	Digital Seal	Online Logo/ Banner	Digital Seal
Participating web-sites	27 [1] (Oct 2000)	[36] (April 1999)	[38] (Oct 2000)	Not Available

Table 1: General Comparison Criteria

Table 1 illustrates the general points of difference between the different service providers.

3.1 **WebTrust 2.0**

WebTrust (www.cpaWebTrust.org) is a product developed and promoted by the global accounting profession to provide assurance to consumers undertaking Internet transactions. Designed by the American Institute of CPAs (AICPA) and the Canadian Institute of Chartered Accountants (CICA), it has now been licensed to the accounting profession in the United Kingdom and in Australia. WebTrust provides a framework and methodology to provide assurance as to the integrity and security, as well as adherence to the disclosed business practices of an e-business. WebTrust 3.0 was recently released which has a broader criteria than WebTrust 2.0, but due to the research timeframe This paper has concentrated on WebTrust 2.0 principles and criteria. Following are the main features of WebTrust:

- **Better control:** The CPA WebTrust principles and criteria ensure sound practices providing an environment for the company to work efficiently, effectively and profitably with greater assurance of data integrity.
- **Legitimacy and integrity:** As highlighted in the principles, the legitimacy and integrity of the transactions will be reliable.
- **Valid and updated assurance:** As the business entity has to be tested for compliance with the WebTrust principles at every 90 days, the customers can have an assurance that the business practices and controls are effective and up to date.
- **Ensures privacy of Information:** WebTrust assures that the site will establish appropriate security techniques like encryption technology and firewalls to protect customer information such as their personal data and sensitive information like credit card number, etc.
- **Consumer complaint resolution mechanism:** Third-party arbitration to resolve privacy, customer service and product quality complaints concerning sites that carry the seal. Consumers or businesses that have disputes with a WebTrust-certified company will be able to file an online claim with the Minneapolis-based National Arbitration Forum at its Web site [<http://www.arb-forum.com>], through a link that will be provided on the WebTrust web site.
- **Provides continuous guidance and assistance for internal auditors:** Hence, the company will be shielded from losses and liabilities.
- **Broad coverage:** WebTrust is very comprehensive and addresses a more broader criteria in electronic transactions; it addresses not only technology issue but also the business practices and internal control issues.
- **More accurate assessment:** The WebTrust seal is granted only after a qualified CPA. The certification by an independent authority adds much to the credibility of the seal.

3.2 Enshrine

Enshrine (www.Enshrine.com.au) is a digital certificate service for authentication of web sites, provided by a partnership between KPMG and Dun & Bradstreet Australia (D&B). The company is authenticated with the Australian Securities and Investments Commission database for any financial and stock related irregularities.

Enshrine certificates are issued under the KPMG Certification Infrastructure, and so comply with international standards and audit controls. Enshrine assures visitors to a given web site that the owner of the site really is who they say they are, and that they have the right to use the site address. Enshrine has the following features:

- Authentication is done with ASIC and the Australian Domain Name Registry, and is normally available in less than one week from time of application.
- *Certificate holders are monitored 24 hours a day for legal failure notifications* and will have their Enshrine Id automatically revoked in case of liquidation or wind-up order.
- *Dun & Bradstreet's unique global company identifier*, the DUNS number, is built into every Enshrine Certificate, for instant reference. This provides for genuine verification of company details against Dun & Bradstreet's corporate database.
- Certificates have a *two year lifetime* rather than the usual one year.
- Certificates are *automatically renewed every two years*, unless the holder advises otherwise, and provided that the holder's details have not changed substantially. The renewal of most other site ids involves re-submitting the same sort of documentation as for the original application. The Enshrine holder does not have to prepare and submit any renewal information and is simply invoiced for the new Certificate.

It should be noted that Enshrine is not a seal of approval and does not give any assurance regarding the conduct of the web site operator; neither does it conduct any extensive audit of the web site operations. It is confined to authenticating the owner of the web site, apart from the screening of the company's financial condition. As mentioned in their web site, "once users establish trust in the operation of a particular site, Enshrine provides ongoing assurance to users that they are continuing to deal with the site".

3.2 Safe Trade

SafeTrade (www.SafeTrade.com.au) is an Internet transaction insurance service, which is underwritten by HIH Casualty and General Insurance Limited (Australia's largest general insurance company with assets of nearly \$8 billion and annual premiums of around \$3 billion). It aims to remove the risk to e-commerce users of their credit card details being used fraudulently or of not receiving goods that they have ordered.

According to its charter³, it guarantees that:

- if the customer's credit card details are used fraudulently after the customer has provided details to a member site, the customer will be reimbursed for their loss; and
- if the goods purchased by a customer are not delivered after having been paid for by the customer, the customer will be reimbursed.

SafeTrade does not qualify as assurance service directly since it does not audit the business operations and practices. Nevertheless, to mitigate the risk of providing insurance it does conduct a background study of the business and its history – which in a way is indirect assurance. Therefore, sufficient background checking is conducted such that accreditation by SafeTrade would reflect a high standard of quality of Product, Customer Service, delivery and security on the participating organisation's part. Other features of SafeTrade⁴ are:

- provides *insurance* and hence peace of mind to the customer about the online transaction
- it is the *first provider of this kind of service* and has tied up with leading online stores in Australia including NineMSN, Dymocks, and Roses Only etc.
- the insurance service is *non-technical in nature* and hence easy to understand and the concept of insurance relates well with the general shopper.
- provides a *secure environment* for genuine traders to sell their products, since it creates a sense of confidence among the customers that they are protected against misuse from an accredited organisation. Furthermore this acts as a good marketing tool for the trader.
- SafeTrade itself is *publicly listed* and hence its business can be monitored.
- HIH is well known in the insurance sector and it's underwriting of the product offers assurance of the product and its potential.

3.3 eTick

Etick (www.Etick.com.au) is an assurance service promoted by NATA's audit and certification body NCS International, Baltimore, and the Hong Kong and Asia Pacific Customer Service Consortium. It assists organisations to realise their potential on the Internet by building trust in ECommerce and ensuring best practice in terms of security, privacy and customer service.

Etick's mission is to be the global economy certification authority establishing a benchmark for eCommerce internationally. Etick aims to achieve this mission by building the Etick Trustmark, promoting the standards promulgated by ISABe⁵ (International Standards Accreditation Board for eCommerce) and the Customer

³ <http://www.safetrade.com.au/consumers.htm>

⁴ Obtained from the official web site of SafeTrade available at <http://www.safetrade.com.au/>

⁵ ISABe or the International Standards Accreditation Board for eCommerce, Inc., is a company incorporated in Delaware, USA. <http://www.isabe.org/>

Service Institute of Australia, forming strategic alliances, acquiring businesses with complimentary and competing products and services. Other features of Etick⁶ are:

- Assumes that the *IES:2000 standards* are the blueprint for building trust in eCommerce. The standards encapsulate recommendations made by various bodies, including the OECD (Organisation for Economic Development) and the Australian government's best practice model for eCommerce, and are unique in that they are the only ISABe approved standards addressing security, privacy, and customer service issues related to eCommerce.
- Etick endeavours to *sell and distribute its products and services online* via its website and its strategic partner's websites, wherever possible.
- Plans to regularly *update its existing suite of products and services and continually develop* new products and services that are complementary to Etick's mission.
- Provides for a *freely available downloadable version of the Self-Assessment*, which can be used by customers to verify their systems before committing to the main audit, which could be very cost-wise and 'educative' for the client.
- Offers *separate training and consultancy services to assist organisations preparing for audit* against the various standards.
- Intends on developing a program that assists organisations seeking to benefit from complaints by having a "*Complain to US*" section on the website.
- Etick has identified the *provision of transaction insurance* to its customers as a potentially significant business opportunity, which has been seen as potential growth area in providing customer confidence.

4. Categories of EC Assurance Services

4.1 Authentication

The major issue associated with authentication techniques is how the person or organisation issuing the authentication confirms that the person requesting the authentication is actually the person or organisation claimed [18]. Most of the assurance services provide authentication services due to the demand and relative ease of offering such services. Authentication services (Certificate Authority (CA)) operates under a hierarchical structure. [17] Alternately, CAs may check published third party information like Dun and Bradstreet, however, much of that material is in the form of self-reporting. It would be therefore be desirable that the assurance provider independently verifies the trading partner's authentication, such as visiting the business site and checking their credentials both internally as well as externally.

Comparison: WebTrust and Etick do not offer this type of authentication service directly, but have linked up with Verisign and Baltimore both well-known names as

⁶ Features of Etick are adapted from the Etick's prospectus [7]

CAs. Enshrine operates primarily as a Certificate Authority not only authenticating the credentials of the online business but also screening the financial status of the company through a tie-up with KPMG and Dun and Bradstreet. Most of this authentication is done through self-reporting and hence differs from the other services like WebTrust and Etick, who conduct an explicit audit of the business operations and practices. SafeTrade does not offer authentication services; but the fact that it offers insurance of any fraudulent transactions, in itself can be an indirect way to authenticate the online business.

4.2 Performance Assurance

Most of the buyer's concerns regarding EC relate to the seller's *performance* [6,10], such as how long the buyer will have to wait to receive the ordered goods. Related to evaluation of business performance, there can be different criteria depending upon for example whether the trading is Business-to-Business or Business-to-Consumer type. Similarly every industry has its own special performance elements that could be added to the list of the general performance criteria. For example, the practitioner could attest to a seller's assertion that he or she meets ISO 9000 standards[16]. Assurance service providers can play that valuable role of the independent third party who attests to the seller's performance assertions. The certification program should adequately include a set of performance criteria, which once certified, could be posted on the customer's web site for public viewing. Developing an elaborate performance or business practices criteria so that the business can be exhaustively assessed, is vital [13].

Comparison: Both WebTrust and Etick offer performance-based assurance. WebTrust offers the most detailed and broader variety of EC criteria. Etick, though not as elaborate, also competes with WebTrust in this area but nevertheless has a scaled down version of the business performance criteria offered by WebTrust. Practitioners 'fully' pre-test – under well-established attestation standards – all the seller's assertions regarding the assurance criteria before issuing the seal. Enshrine offers limited performance verification (financial, stock related and legal viability) and relies primarily on self-reporting and some after-the-fact testing. SafeTrade does not offer any performance-based assurance services apart from guaranteeing safe delivery of goods from the online trader to the customer.

4.3 Internal Control Assurance

Management should understand that internal controls are their responsibility and bringing internal controls up to the requirements of a set of ECAS criteria should help reduce the risk and the potential loss [12,15]. One first possible ECAS engagement would be a diagnostic review, in which the practitioner would use self-assessment questionnaires and personal observation to identify potential internal control problems [7]. The practitioner could then follow up on those findings with a proposal to conduct a more detailed engagement to better define the weaknesses and develop recommendations. It would be expected that many clients would not

have in place some of the internal controls included in the ECAS attestation criteria. Just learning that they need the missing internal controls will be valuable to those clients [2].

Comparison: Only WebTrust and Etick offer Internal control audit services. WebTrust conducts a strict and exhaustive audit on the internal controls involving specialists if necessary, while Etick does not offer such an elaborate audit of internal controls. Etick's main emphasis on internal controls is more focussed on transaction security, measures taken to ensure safekeeping of the customer's information (privacy), and finally business conduct towards good customer service. Neither Enshrine nor SafeTrade conduct any checks on Internal controls.

4.4 Insurance

Insurance services on their own cannot be classified as pure assurance services since they do not vouch for the business practices or operations. Nevertheless, to provide the insurance on bad transactions, the insurance service does sufficient background verification of the business to provide its service, as no insurance service is going to risk offering a cover-up guarantee if it finds any faults in the client's business environment. Insurance services provide online customers with a secure environment to trade on the Internet and complete insurance against their credit card being misused or goods not being delivered [7]. From a customer's viewpoint, this is the best assurance they can receive since it covers up for any problems related to fraud or bad deliveries. So although, insurance services are not assurance services and hence realistically speaking should not be part of this research, they have been included because of the customer appeal and the impact they can have on customer trust and in general the EC assurance sector.

Comparison: SafeTrade is an Insurance based service only and this is where it has made its niche. Etick, which offers different kinds of assurance services, is considering of offering value added insurance services to their clients in the future. Etick with its combined services in traditional online assurance services with insurance services will be positioned to penetrate the market of assurance services more effectively when compared to the others. WebTrust, coming from the traditional accounting sector, believes more on limiting its liability and does not offer any kind of insurance against bad transactions or fraud. Interestingly, in its agenda – WebTrust has warned of possible litigation issues by offering EC assurance services and has cautioned its practitioner's in the strongest possible words to be cautious of accepting and dealing with clients apart, and to conduct the assessment carefully so as to avoid legal problems. While this ensures good certification standards and an environment for offering quality audits from the practitioners, its limited liability approach does not insure the customer of any possible misuse or fraud and hence is essentially useless in covering the customer's losses due to no fault of theirs.

5. Criteria of Assurance

The criteria used by clients to develop their assertions and subsequently by practitioners to attest to those assertions is a critical aspect of ECAS engagements. Practitioners should try to limit liability by obtaining full agreement with their clients as to all of the planned assertions and related criteria as part of the pre-engagement activities. Typically these are well notified, but clients might not fully agree to them, in which case practitioner should ideally decline the engagement [13]. Generally most criteria are well-established criteria as promulgated by a standard setting or regulatory body and thus promoted by the assurance service.

Comparison:

WebTrust has a well-defined criteria of assurance apart from the authentication service provided in conjunction with a Certificate Authority (CA) [19]. *Business Practices Disclosure* - the entity discloses its business practices for electronic commerce transactions and executes transactions in accordance with its disclosed business practices. *Transaction Integrity* - the entity maintains effective controls to provide reasonable assurance that customers' orders placed using electronic commerce are completed and billed as agreed. *Information Protection* - the entity maintains effective controls to provide reasonable assurance that private customer information obtained as a result of electronic commerce is protected from uses not related to the entity's business.

Etick has three issues on which their assurance service is modelled on [7]. *Security* - the entity maintains effective controls to provide reasonable assurance that transactions are conducted in a secure manner and all data is stored a safe environment. *Privacy* - the entity maintains effective controls to provide reasonable assurance that personal customer information is well protected from internal as well as external entities and is used only in the manner agreed by the business entity and customer. *Customer Service* - the entity's transactions conform to level of customer assistance, which leads to customer satisfaction and that customer service levels are delivered in accordance with customer expectations.

Enshrine provides the following criteria⁷ of assurance. *Authentication* - certifies that the business is whom they claim they are and can provide a digital certificate with secure connections to their Enshrine site security purposes. *Screening* - checks the business credentials for financial integrity and viability of business.

SafeTrade, although conducts extensive background and risk evaluation is done prior to offering their service, they officially do not certify the business as such (do not publicly disclosed any criteria of assurance) but only provide insurance on bad transactions.

⁷ <http://www.enshrine.com.au/faq.htm>

6. Assurance Issues

The following sub-sections seek to compare the EC assurance services based on a detailed assessment criteria, namely self-assessment, assessing authorities, certification, re-certification, and online seal management.

6.1 Self-Assessment

A self-assessment questionnaire can be prepared for the client, which is used to verify if the client has the preliminary compliance levels and will help the client determine if it meets the ECAS principles and criteria [15]. An important note in the self-assessment process is whether it is *pre-engagement*, that is before the actual assessment. Another issue is whether the self-assessment is *compulsory* or not. In case the self-assessment is a part of the pre-engagement, clear guidelines should be given to the client so as to facilitate the execution. Any *charges* as required by the practitioner for providing this service along with any support in undertaking the self-assessment should be communicated to the client. These costs should be clearly stated as to whether they are *service charges*, such as providing the Self-assessment questionnaire or *reporting charges*, such as costs associated with providing a report of the self-assessment. Similarly in case where any *professional help* is provided, the costs should be ideally stated for the client's purpose. Practitioners should note that this advisory role should be taken with care so as to not impair their independence when they undertake the full assertion engagement. If necessary the certifying body could provide for a different set of services – one to help and the other to audit the business.

Where the self-assessment process is a part of the engagement process, and it identifies significant deficiencies, the practitioner will have to consider, in consultation with the client, whether to stop or delay the engagement process [14]. This decision will be mainly affected by the nature of the necessary activity period before which the attestation can be conducted.

Comparison: Since only WebTrust and Etick offer full assurance based services, they have a well-established provision of self-assessment. The self-assessment (SA), which Etick offers, is not mandatory, it is at the client's discretion, but it is naturally advised. The SA offered by Etick is freely available over the Internet, but if a report is required then charges (A\$200) are applicable. External help is available in case the client requires any help regarding the SA, but these are completely independent of the auditors and is provided by Etick as a value added service of the parent organisation.

The WebTrust Self-Assessment differs from Etick in the fact that it is only offered at the start of the engagement process and is billed as part of the full engagement. Hence, the services costs and report cost are bundled along with the main audit fees. Since WebTrust requires a fully unqualified report at the end, in case there are discrepancies during the Self-Assessment stage, it will be strongly recommended that the client abort the engagement. This would not be a very good proposition for the client from a cost point of view as the engagement has already been committed

to. WebTrust leaves to the discretion of the accountants to enforce independence and no guidelines are provided to differentiate advisory roles and assessment roles. Enshrine and SafeTrade both have a minimal self-assessments, which are used as starting points towards their services, but no details were available regarding them and hence could not be compared under this issue.

6.2 Assessing Authority

Assessment authority's competency is one of the important cornerstones of a professional engagement. Practitioners should have adequate technical training and proficiency in the attest function and perhaps previous audit experience. This may include preparing and presenting an assertion involving collecting, classifying, summarizing, and communicating information apart from the analytical, critical and the investigative abilities required for the attest process both from an individual or organisation point of view [3]. It is also the practitioner's responsibility to make sure he or she is competent to evaluate the explicit business practices, policies or technologies [5]. Practitioners need to have the relevant and adept knowledge in the subject matter of the assertion. Issues involved are what sort of *certification* is required to become an assessor, who is the *certification granting board* along with the *costs* involved and how long does it take to get certified. Adequate knowledge can be obtained through a variety of means including [13]:

- Attending ECAS provider's specialized training courses
- Formal education
- Continuing education, including self-study
- Practical experience.

Though desirable, it is not always possible for a particular practitioner to obtain all the skills and knowledge for all aspects of an engagement. In this case it is advisable to use a *specialist* [2]. However, to use a specialist the practitioner still must have sufficient knowledge of the subject matter to communicate to the specialist the objectives of the work and be skilled enough to evaluate the specialist's work to determine if the objectives were achieved [9]. It is beyond the scope of this document to provide the full details of the assessing body, because the services were not very forthcoming with this information and it involved too much detail, but a summary comparison of the different assurance services is shown in Table 2.

6.3 Certification

The most crucial stage for the assurance service provider is the actual verification of the client's business and the assessment of the business operations in the online environment [7,11]. During this stage, the assurance service ensures the business veracity by either conducting a check, which can be extended to an explicit and comprehensive audit before granting its approval usually in the form an online seal. Assurance services are mainly based on established *standards* preferably by a

recognised authorised board independent of the industry or the assurance service itself [7].

Unlike other sectors, the web sites ideally like to be certified on the day of the launch of the online business so that they can be used in the marketing of the site, that is there is a need for a *facility for starting the audit during the construction* of the site [13]. Some assurance services conduct a detailed audit, which includes a check on the business practices, such as adherence to client's privacy or billing practices, which cannot be checked until the business goes live.

Other assurance services verify the *financial viability* of the site in order to assure the business⁸. This could be in the form of checking the financial statements or verifying the business creditability at the Australian Stock Exchange or with third party information like the Dun and Bradstreet database.

While much of the client's web site is well protected and safeguarded with proper controls, the ISP maybe the weak link in the chain [4]. Some assurance services have taken up or are planning to take *ISP verification* as an important phase in their assessments.

Further information regarding the certification process of the respective assurance services can be found at the respective assurance service's web sites.

6.4 Re-Certification Issues

Since the assessment has a limited lifetime, the seal will have to be renewed so that the client remains certified [13]. Assurance bodies set a particular time frame for which the assessment and hence the seal is valid, depending on various factors. The frequency of the audit defines the maximum period for which the seal will be active. If any changes are notified by the client or noted by the practitioner, a fresh assessment should be ordered [13]. There should be *facilities for ad-hoc audits to update the client's certification* to verify the changes to the client's system [15].

To facilitate re-certification, the assurance body or the practitioners should ideally *monitor their client's business* for any changes in its EC business policies, practices, processes, and controls that might affect the client's ability to continue to meet the agreed assurance principles and criteria.

Practically it is not possible for a practitioner or the assurance body to keep track of compliance of change notification. To account for this, generally assurance services build an obligation into the contract with the client that the client will *notify the assurance body or the practitioner of any changes* carried to the system [2].

The assurance service can setup a *customer help and grievances service*, where customers of their certified sites can complain about the problems faced in their business transactions with the client site [7]. The assurance body can pursue the matter with the negligent business and verify whether there are any discrepancies in the agreed principles or any breach of controls in the client's business [13].

⁸ <http://www.enshrine.com.au/faq.htm>

Some assurance services require a *minimum history* of the business operations [14]. This is a good practice, as no audit however elaborate, can detect all the problems in the client's operations and practices. By enforcing a two-month working period gap between the last change and the assessment, the assurance service can be fairly confident that the system is working properly.

6.5 Online Seal Management Issues

Since ECAS deal with online business, it has to report online regarding the certification status [15]. This is facilitated by issuing an online seal, which not only authenticates a website but also conforms that the business has been audited to the mentioned standards which certifies the assurance service's principles and services. These seals along with digital certificates can be programmed to expire after a certain time period [7]. Hence organisations will have an incentive to renew their certifications on time. Some of issues involved with the digital certificates (or seals) are discussed below.

First and foremost is, whether the assurance service *supports digital certification*. *Certificate Authorities* (seal providers or managers) only offer authentication services and as such, most pure assurance services do not provide this service directly. Digital certificates or online seals differ from simple logos in the fact that a digital seal is a software application that authenticates an organisation. It is a uniquely verifiable, unforgeable, proof of identity, issued by a trusted third party, that enables the receiver to validate the identity of the parties to eCommerce transactions and activates a secure, encrypted link between the customer and the organisation's website.

Sufficient *information should be provided online* linked with the seal to inform the customer of the certification involved and what criteria the business has been committed to [15]. The following documents as implemented in the WebTrust guidelines could be possibly linked [13].

- business disclosure statement, which includes the appropriate disclosures to meet the ECAS principles or criteria
- privacy statement as to how the customer's data will be stored and used
- management's statement of assertions regarding the ECAS criteria, including the dates covered by the assertions
- auditor's report, which is the practitioner's unqualified report⁹.

The business should included hyperlinks to the Assurance service website where the principles and criteria are clearly explained. Another important facility for customers is to provide a *list of already certified sites* [15]. This can be alternately provided in the form of revoked sites or can be provided through a searchable function if the privacy of the clients is important, though at present since the number of certified sites is small, assurance services are providing the list of certified sites. Indirectly this service acts towards their marketing also for both the

⁹ An example of such a report is provided at <http://www.karlnagel.com/publish/ecasb.htm#wt>

assurance service provider and the assured client business. The ECAS may also provide a customer complaints form at the their website. Some assurance services especially the ones without any formal assessment requirements (i.e. depending upon self-reporting and other ad-hoc based assessment), can provide for *automatic renewal of the seal*¹⁰.

	WebTrust	Enshrine	SafeTrade	ETick
CATEGORY				
Authentication	Yes	Yes	No	Yes
Performance Assurances	Yes	No	No	Yes
Internal Control Assurances	Yes	No	No	Yes
Insurance	No	No	Yes	Yes
CRITERIA OF ASSURANCE	Business Practices Disclosure Transaction Integrity Information Protection	Authentication Screening	None	Security Privacy Customer service
SELF-ASSESSMENT	Yes	Not Available	Not Available	Yes
Facility to preview [Site where available]	Yes [Principle and Criteria]	-	-	Yes [Available separately]
Mandatory	Yes	-	-	No
Pre-engagement	No	-	-	Yes
Service Cost	Part of engagement	-	-	Free
Report Cost	Part of engagement	-	-	A\$200
Help Availability	Yes	-	-	Yes
ASSESSING BODY ISSUES				
Special qualifications necessary	Yes	No	N.A	Yes
Certification required	Yes	No	N.A	Yes
Certification Authority	WebTrust Board of AICPA (US) and CICA (Canada)	KPMG	N.A	ISABe
Costs involved	\$US1400 approx	N.A	N.A	A\$3000
Typical Training duration	1-2 days practitioner's training course.	N.A	N.A	5-6 days training course.
Use of specialists	Yes	No	N.A	No
CERTIFICATION ISSUES				
Standards Board	WebTrust Board - Under AICPA (USA) and CICA (Canada)	KPMG and Dun & Bradstreet	N.A.	ISABe & Customer Service Institute of Australia
Certification Standards (Name)	WebTrust Principles & criteria	N.A.	Limited	IES:2000
Typical Time-frame for audit	Depends on client's firm size	1 day	1 day	Typically 1 day
Facility of certification during construction	No	No	Yes	N.A.
Financial viability check	Yes (Limited)	Yes	No	No
ISP verification	Yes	No	No	No
Evidence collection	Yes	Limited	Yes	N.A.
Evidence lodged at	AICPA	N.A.	Itself	N.A.
RE-CERTIFICATION ISSUES				
Periodicity	1 year	2 years	Not Applicable	1 year
Facility for ad-hoc audit to check changes	Yes	No	No	Yes
Continuous Monitoring	No	Yes	Limited	No

¹⁰ <http://www.enshrine.com.au/faq.htm>

Notify Assurance Body of any changes	Yes	No	Not Available	Yes
Formal Customer complaints handling	No	No	Yes	Yes
Minimum history requirement	[2 months]	Not Applicable	Not Applicable	No
ONLINE SEAL MANAGEMENT ISSUES				
Certification Format	Click able Seal + Digital Certificate	Click able Seal + Digital Certificate	Simple Logo	Click able Seal + Digital Certificate
Digital Seal Provider/ Manager (CA)	Verisign	-- Itself --	Not Applicable	Baltimore
Click able Online Information	Yes	No	Not Applicable	Not Available
List of Certified Sites [Format]	Yes [List]	Yes [Search List]	Yes [List]	Yes [List]
Site where list is available online	Home-page	Home-page	Home-page	Not Available (But not Home-page)
Automatic Renewal of Seal	No	Yes	Yes	No

Table 2: EC Assurance Services Providers Comparison

8. Conclusion

Concluding, there is no doubt that WebTrust includes a broader variety of EC criteria and goes well beyond those addressed by the other assurances services. Etick with its impressive array of assurance services provides solid competition and on some issues is much more strategically and logistically positioned than WebTrust. However, Etick does not include the business practices disclosure and transaction integrity types of criteria included in WebTrust, although they do in a limited sense of assuring security. For example, WebTrust requires numerous performance disclosures on the Web site such as delivery times, how returns are handled, and a phone number for customer service, while Etick checks compliance on the broad criteria of Customer service. Similarly, though WebTrust and Etick provides full assurance service when compared to Enshrine and insist on checking financial documents and other business soundness, they do not carry out 24 monitoring for any business, legal or liquidation problems. As highlighted in the summary of SafeTrade, if the final motive of providing assurance service is to encourage customer faith in the online business, then it can be done by simply insuring the transactions and covering the customer for any losses due to fraud or delivery problems. However, SafeTrade does not guarantee privacy as part of its services and the customers, although covered on the transaction front, can be misled on the privacy issue. This is where Etick with its future plans to provide insurance-based value added services to its existing suite of assurance services, and with its competitive pricing (a strategic combination) could very well prove to be more effective in marketing than WebTrust. With its current marketing, value added assurance services and future tactical bundling of Insurance services, Etick is well poised to be a serious player in the assurance services sector in Australia.

This research has provided a comparison of some of the major assurance service providers in Australia. There is a very competitive domain with each service having an edge over the other on some issues, while at the same time having pitfalls for which the service has been fully criticised by the market. Ideally it would be desirable to have a service, which offers all of the different services offered by the

different providers. While this would then be a desirable service, logistics and operational factors would come into play, not to mention the skills availability to handle the service along with the costs involved. It should be stressed that even though these different services overlap to varying degrees while at the same time specialising in their own niches, they are not mutually exclusive. Each of the above service providers have one thing in common, that is, to serve the online community especially the end-user by providing assurance regarding the trading merchant's capability to transact as per their claims and in some way provide security to the consumer. The fact that an EC business already has one of these logos or seals on their web site might not fully achieve complete assurance and hence does not preclude the online business in having an interest in other logos. All these services will co-exist in some form and each will play an important role in the ECAS market. They have a common criteria among them, namely security (data and transactions), privacy and sound business policies. Given the important occurrence of the above examples of security, privacy and business policies, any general framework for electronic commerce assurance should address these dimensions to some degree [21]. There is a need to continue researching this field by comparing the new assurance providers and updating the comparison for any new criteria as they emerge, such as for WebTrust 3.0. It would also be of significant interest to survey customers who trade with organisations bearing the ECAS seals to determine their perspectives and satisfaction with the organisation's service, security and privacy relating to the Electronic Commerce Assurance Services.

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