

**PREFERRED STANDARDS TO SUPPORT NATIONAL  
COOPERATION IN APPLYING TECHNOLOGY TO  
VOCATIONAL EDUCATION AND TRAINING**

**2000**

## **SURVEY REPORT**

**FRAMEWORK FOR NATIONAL  
COLLABORATION IN FLEXIBLE LEARNING IN  
VOCATIONAL EDUCATION AND TRAINING**

**2000-2004**

**AUSTRALIAN NATIONAL TRAINING AUTHORITY  
STRATEGY 2000 PROJECT 2/5.1**

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NATIONAL TRAINING  
AUTHORITY**

This document forms part of a series of reports on  
Preferred Standards to Support National Cooperation in Applying Technology to  
Vocational Education and Training

An initiative within the  
Framework for National Collaboration in Flexible Learning in  
Vocational Education and Training  
2000-2004

All reports and consolidated recommendations are available at  
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2000

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0.2	27 Sep 00	Margaret Turner	Victorian response added
0.3	28 Sep 00	Margaret Turner	NSW response added
0.4	1 Oct 00	Margaret Turner	Added discussion of results
0.5	25 Oct 00	Margaret Turner	Added general notes
0.6 Final	30 Oct 00	Jon Henry	Added comments

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## Executive Summary

This report collates the responses to the VET Preferred Standards Survey. The aim of the survey was to gather information about the 1998 standards, specifically

- the relevance of standards within projects
- initiatives and projects that have used the standards
- opportunities for improving the preferred standards
- constraints and barriers to the use of the preferred standards.

The survey was distributed in hard copy and electronic format to the ANTA CEOs. Responses were received from all jurisdictions except ACT. The Commonwealth, advised that they would not be responding as they did not deal directly with VET. Northern Territory advised that they would not be participating in the survey.

A total of four initiatives which have been implemented in accordance with the 1998 Preferred Standards were described.

The main issue identified in the survey was the anticipated benefits of interoperability – between systems, institutions, staff, and students – which standards will bring.

Five other issues were common across several responses. Together with possible options for their solution, they are

1. Confusion about the relationship between standards and brands.

Possible Solution:

- VET should include information that highlights the importance and benefits of open non-proprietary standards in all Standards education and training.

2. 1998 Standards are not known or understood.

Possible Solution:

- Communication Plan
- User Guide
- Standards onto EVAG website
- Clarify audience
- Add non-technical explanations
- Staff training esp. procurement staff
- Briefs at VET Project Meetings

3. Currency of Preferred Standards – they require reviews and maintenance.

Possible Solutions:

- Quarterly, 6 monthly or annual reviews
- Ongoing advisory panel

4. Difficulty in supporting open standards - proprietary “standard” provides “interoperability” and is easier to support.

Possible Solution:

- Advisory Panel to provide advice on benefits of open standards and how to use and support them

5. Potential conflict with other standards from State and Territory agencies, whole-of-government initiatives, EdNA projects, International standards bodies, vendors' proprietary "standards"

Possible Solution:

- Further collaboration between States and Territories

## 1 Introduction

### 1.1 Background

On behalf of the EdNA VET Advisory Group, the Co-operative Research Centre for Enterprise Distributed Systems Technology (DSTC) is undertaking the project *Strategy 2000 Project: Preferred Standards to Support National Cooperation in Applying Technology to Vocational Education and Training*. This is part of the larger ANTA project *Framework for National Collaboration in Flexible Learning in Vocational Education and Training 2000 – 2004: Strategy 2000*.

The aim of the project is to review and update The Preferred Standards<sup>1</sup> which were developed in 1998 as part of an ongoing process for developing and maintaining standards. The Preferred Standards to Support National Cooperation in Applying Technology to VET were endorsed by ANTA CEOs on 2 March 1999.

As part of this project, DSTC undertook a survey to gather information about the 1998 standards, specifically

- the relevance of standards within projects
- initiatives and projects that have used the standards
- opportunities for improving the preferred standards
- constraints and barriers to the use of the preferred standards.
- 

### 1.2 Methodology

After consultation with the Project Manager, DSTC prepared the questionnaire in Appendix A and distributed it in hard copy and electronic format to the ANTA CEOs listed below:

Mr S Sedgwick - Commonwealth  
Dr K Boston - NSW  
Ms M Sussex - Victoria  
Mr R Marshman - Queensland  
Mr I Hill - WA  
Mr G Spring - SA  
Dr M Forrest - Tasmania  
Mr A Hird - ACT  
Mr W Czernezkyj - NT

The complete distribution list, including the cc: recipients, is attached as Appendix B.

A total of 6 completed responses were received. This represented responses from all jurisdictions except ACT.

Murray Judd, representing the Commonwealth, advised that they would not be responding as they did not deal directly with VET, but would be interested in the survey results.

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<sup>1</sup> The report on *Preferred Standards to Support National Cooperation in Applying Technology to Vocational Education and Training* is available at <http://home.vicnet.net.au/~neptune/finrep.htm>

Karen Wernham from the Northern Territory advised that they would not be participating in the survey.

### **1.3 Assumptions**

No assumptions were made.

### **1.4 Document Structure**

This report collates the responses received in section 2. It then discusses the results before presenting conclusions and recommendations. The complete responses are provided in the appendix.

### **1.5 Definitions, Acronyms and Abbreviations**

## **2 Submissions**

### **Contact Details**

#### **New South Wales**

1. Organisation to which this response applies:  
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### Tasmania

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#### **Victoria**

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#### **Western Australia**

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## 3 Results

### 3.1 General

**Question 8.1** Please outline your view for how Preferred Standards have contributed to Improvements in the procurement of technology.

#### **New South Wales**

All technology procurement by TAFE Institutes and School Districts in NSW DET is subject to the application of NSW DET standards referred to in the response to Q22.

#### **Queensland**

The Preferred Standards are not used directly by TAFE Queensland. TAFE Queensland has an IT&T Strategic Framework which includes a Technical Architecture based on standards and particular products. The Preferred Standards are mentioned in the Strategic Framework document.

The standards have been mandated by the Board of TAFE Queensland and must be the first consideration when choosing or modifying a system. The standards are grouped by the entity that has responsibility for maintaining them. The order of precedence based on entity for these standards is:

Australian Vocational Education & Training Management Information Statistical Standard (AVETMISS)

Department of Communication and Information, Local Government and Planning

DETIR IT Policies and Standards

ANTA, National VET Technology Standards

TAFE Queensland Standard Operating Environment (SOE)

Procurement is based on the TAFE SOE.

The Preferred Standards are used by the Department in Skill Centre contracts. Grants for the establishment of Skill Centres are subject to the condition the grantee adheres to the Preferred Standards in any implementation of online training delivery.

#### **South Australia**

This has been positive, as it has contributed to the prevention of non-standard implementations, eg videoconferencing, where the standards form the basis of the platform development. However, many technologies and standards have developed beyond those established in the February 1999 document and need to be revisited.

#### **Tasmania**

See answer to Q9.

#### **Victoria**

The Standards have provided a reference to measure appropriateness of proposed purchases. Please note that Victorian VET providers have autonomy in procurement of technology.

### **Western Australia**

Preferred standards have assisted in providing a coordinated approach to leveraging the benefits of open systems standards, which has provided the opportunity to enabled procured technologies to interoperate. In addition, preferred standards have provided a structure to the procurement of a number of technology products enabling comparison based on standards rather than proprietary technologies.

**Question 8.2** Please outline your view for how Preferred Standards have contributed to improvements in the deployment of technology

**New South Wales**

TAFE NSW Institutes and School Districts manage the deployment of technology according to procedures specified within the NSW DET standards/ The review process incorporated into the standards leads to continuing improvement in the deployment of technology.

**Queensland**

See answer to Q8.1.

**South Australia**

Strong compatibility in basic functionality, and improves interoperability and efficient use of resources. Examples include videoconferencing and use of e-mail, which are now deployed universally, except the LDAP standard.

**Tasmania**

See answer to Q9.

**Victoria**

Insufficient awareness or use of Standards to measure this. Again providers have individual responsibility for this, although PETE can mandate standards through project funding.

**Western Australia**

Open systems standards in general have provided improvements with regard to technology deployment. The available literature provides comprehensive evidence that over the last 25 years open systems standards have enabled interoperability, have increased competition among suppliers and continue to reduce the cost of technology.

The definition of preferred standards across the VET sector has provided a method to maximize the return on investment of technology through the application of open systems standards with particular emphasis on meeting the business requirements of the sector.

**Question 8.3** Please outline your view for how Preferred Standards have contributed to improvements in deployment of courses

**New South Wales**

Deployment of courses is undertaken according to criteria not addressed by the Preferred Standards. They are deployed to meet community, industry and learner needs. The technology required to support the courses is procured and deployed in accordance with NSW DET standards.

**Queensland**

See answer to Q8.1.

**South Australia**

This has been positive, in terms of importing standard formatted content (HTML) into online delivery platforms. HTML delivery, e-mail, communication and videoconferencing provide much wider access and reach for students to access courses.

**Tasmania**

See answer to Q9.

**Victoria**

No process has been in place to measure this.

**Western Australia**

Open systems standards are yet to influence the deployment of courses to any degree. The emergence of IMS may provide a suitable framework for standardization, although courseware, course management and course delivery systems manufacturers have not implemented the standard completely limiting the interoperability.

**Question 8.4** Please outline your view for how Preferred Standards have contributed to improvements in interoperability between organisations

**New South Wales**

NSW DET standards are based on internationally agreed Open Standards thus ensuring interoperability. All networking is to international TCP/IP standards as specified in the Preferred Standards.

**Queensland**

Standards are critical for interoperability and TAFE Queensland endorses the use of standards although it does not use the Preferred Standards as a priority.

The Department is forced to use certain standards for interoperability with other organisations. Such standards include SMTP, HTTP, and HTML.

**South Australia**

Standards have allowed easy exchange of course content between state and TAFE organisations including both the content itself and its transportation (eg e-mail). Videoconferencing interoperability has improved as organisations improve their compliance with the standards.

**Tasmania**

See answer to Q9.

**Victoria**

Some improvement particularly in the PC hardware standards.

**Western Australia**

Open systems standards have, as mentioned above, provided substantial improvements in interoperability between organizations. The preferred standards, in general, are a subset of these open systems standards and therefore have leveraged specific benefits for organizations within the VET sector. In particular, VET sector organizations in Western Australia have benefited from preferred standards in regard to interoperability afforded by the AVETMISS management standard; several groupware standards including SMTP, IMAP4 and MIME; Web protocols and resource locators.

It should be recognized that several industry standards have also contributed to improvements in interoperability between organizations. In particular, the wide spread use of Microsoft technologies has provided significant improvement with regard to the interoperability of Groupware, and Web Protocols between VET organizations in Western Australia.

**Question 8.5** Please outline your view for how Preferred Standards have contributed to improvements in interoperability between individuals within VET

**New South Wales**

NSW DET standards facilitate interaction between individuals within VET through the networking standards. These comply with the Preferred Standards.

**Queensland**

See answer to Q8.4.

**South Australia**

See answer to Q8.4.

**Tasmania**

See answer to Q9.

**Victoria**

No process has been in place to measure this.

**Western Australia**

See answer to Q8.4.

**Question 9.** Please indicate any standards that you have not used and the reason

### **New South Wales**

NSW DET uses its own standards. The Preferred Standards are now 18 months old.

### **Queensland**

The Department concentrates on uniformity of product brands rather than on standards for interoperability. This makes support of the Department's computer systems easier.

The Department has recently introduced a SOE for internal use. The SOE is based on proprietary Microsoft products. For example, email within the Department is transferred using the proprietary Exchange protocol rather than the standards suggested in the Preferred Standards. It is proposed that staff access to Departmental systems from external sites will be via a thin client solution rather than via the interfaces specified in the Preferred Standards.

### **South Australia**

All other than LDAP have been implemented. LDAP is the next area of need and it is the next area of consideration within the agency.

### **Tasmania**

A number of key stakeholders from TAFE Tasmania and the Department's Information Management Branch were contacted for input into the survey. Few had heard of the Vet preferred standards. Tasmania's Whole of Government Internet standards drive the use of web technologies. Purchasing of hardware is driven by whatever is the latest model available under the State Government's C150 purchasing provisions. For other standards users refer to their information technology section's standards.

It was hard to identify any ownership of the previous VET preferred standards. There was some anecdotal information that managers had found the standards incomprehensible and had been unclear about who was the intended audience.

### **Victoria**

To put it another way, the standards of use have been the Personal Computers and Internet/Java standards. Email, Groupware, Videoconferencing in particular require significant investment in infrastructure and technology and particularly, pricing related to technology changes rapidly. For this reason, these Standards have had minimal effect in these areas.

### **Western Australia**

The Client Computers and Associated Hardware standard has not been strictly used in Western Australia. The reason being that these standards do not adequately address the diverse business requirements, nor do they provide for improving local competition in relation to the procurement of these devices. Additionally the speed of development in the client computer market is such that standards are effectively obsolete immediately after or even before publication.

Also, some of the Groupware standards such as ODMA, ODMA workflow, iCalender, vCalender have not been used as Western Australian VET sector organizations have chosen industry or market leading technology approaches and have been able to leverage attractive procurement strategies in order to utilise these across VET organizations.

### **3.2 Implementation of Standards**

**Question 10.** Has any specific training in Preferred Standards been undertaken for relevant staff in the design, specification, and purchasing areas?

#### **New South Wales**

No specific training in Preferred Standards has been undertaken. Relevant NSW DET staff was involved in the development of its internal standards.

#### **Queensland**

No.

#### **South Australia**

Not aware of any training in the area. However key staff across the state system were involved in the development of these standards.

#### **Tasmania**

Covering Statement: The VET preferred standards have not been implemented. Potential users of the standards have either not known about them or for one reason and another have used other agency or State government standards. Therefore only Q19 is answered in this section.

#### **Victoria**

No specific training has been funded from PETE although reference to the Standards have been continually made in communication with providers.

#### **Western Australia**

No.

**Question 11.** If training was undertaken, what form did it take?

**New South Wales**

N/A.

**Queensland**

N/A.

**South Australia**

N/A.

**Tasmania**

See covering statement in Q10.

**Victoria**

N/A.

**Western Australia**

N/A.

**Question 12.** Are the Preferred Standards used in the purchase of infrastructure for training?

**New South Wales**

No. NSW DET's own standards are used in purchase of infrastructure.

**Queensland**

Under TAFE IT&T Governance, this is a responsibility of individual Institutes.

Preferred Standards are mandated for online training infrastructure funded under the Skill Centre Program.

**South Australia**

Yes. However, in the area of PCs all current purchases are above the standards, and in the videoconferencing area, a deal of H.323 implementation has already taken place, with subsets of the international standards which were not known when the VET standards were formed.

**Tasmania**

See covering statement in Q10.

**Victoria**

If training means, general VET training, yes as suggested minimum standards.

**Western Australia**

Yes.

**Question 13.** How are the Preferred Standards being addressed within training delivery functions?

**New South Wales**

NSW DET curriculum documents describe equipment for course implementation. These documents are written in generic terms and address the DET standards.

**Queensland**

See answer to Q12.

**South Australia**

Key staff that have been involved with the development of these standards are applying them at the point of procurement and providing advice to RTOs on standards.

**Tasmania**

See covering statement in Q10.

**Victoria**

This is the responsibility of individual providers and data is not available.

**Western Australia**

Organisations within the Western Australian VET sector employ technology and systems management professionals to address and make use of open systems and preferred standards. The preferred standards are used as a frame of reference for the of utilisation open and industry technology standards.

**Question 14.** Have other training organisations in your state or territory been advised of the endorsement of the Preferred Standards?

**New South Wales**

This is properly a function of ANTA.

**Queensland**

The Queensland Open Learning Network and the Agricultural Colleges are aware of the existence of the Preferred Standards.

**South Australia**

Yes.

**Tasmania**

See covering statement in Q10.

**Victoria**

See answer to Q10.

**Western Australia**

Yes.

**Question 15.** How are the Preferred Standards addressed in connection with the purchase of training with public funds?

**New South Wales**

Currently NSW DET does not specify that Preferred Standards be used when purchasing training.

**Queensland**

They are not.

**South Australia**

Not currently.

**Tasmania**

See covering statement in Q10.

**Victoria**

These Standards are not used as criteria in contract negotiations with providers.

**Western Australia**

Preferred standards, in the form of open and industry technology standards, are integrated into procurement strategies and operationally within the tendering process in order to derive the best value from products and services purchased through public funds.

**Question 16.** How are the Preferred Standards addressed in connection with grant schemes for training?

**New South Wales**

At present, NSW DET does not use grant schemes for training.

**Queensland**

Contracts for Skill Centres use the Preferred Standards where applicable.

**South Australia**

Not currently.

**Tasmania**

See covering statement in Q10.

**Victoria**

Where applicable the submission guidelines refer or mandate to these Standards in standard types already mentioned.

**Western Australia**

As stated above in Q15. Grants and schemes are allocated through formal tendering or submission processes that reference open systems and preferred standards.

**Question 17.** What have been the benefits of using the Preferred Standards?

**New South Wales**

Many years ago DET developed its own standards and has benefited from the use of these standards. The benefits include:

- Consistency of the teaching and learning environment resulting in easy transfer of teachers and learners
- Ability to share information within the Department and with outside bodies
- Interoperability with other bodies

**Queensland**

TAFE Queensland considered the Preferred Standards in the development of the SOE although it did not adopt the Preferred Standards as the main basis for the SOE.

**South Australia**

Interoperability and seamless communication.

**Tasmania**

See covering statement in Q10.

**Victoria**

Provision of a reference and move towards commonality and interoperability, but mainly in the PC standard.

**Western Australia**

Preferred standards have provided improvements with regard to interoperability, have increased competition among suppliers and continue to reduce the cost of technology.

**Question 18.** What have been the difficulties encountered in using the Preferred Standards?

#### **New South Wales**

Since NSW DET has a long history of using its own standards, there have been no difficulties using the Preferred Standards.

#### **Queensland**

The Preferred Standards are meant to improve the production of results. They do this by providing specified interfaces that enable the mixing and matching of the best products from different manufacturers.

The Department concentrates on ease of support. Support is simplified if interface standards are ignored and products from a limited number of manufacturers are used.

#### **South Australia**

Some are no longer current – technology and international standards have progressed too far – reviews need to be carried out and promulgated annually. This could be done by setting up a mailing list to inform agencies and RTOs of updates.

Encourage agencies and RTOs to refer to preferred standards in tendering processes. There is the potential for conflict between the VET preferred standards and whole of government standards in a particular state, although this is not currently the case.

#### **Tasmania**

See covering statement in Q10.

#### **Victoria**

Effectively, these Standards are 2 years old. Within an environment which changes significantly in 3 months, the Standards struggle for credibility. A clear example is the issue of Metadata. Little is mentioned within the Standards but VET, in the last 12 months, has been in an urgent need for a standard vocabulary/thesaurus etc.

#### **Western Australia**

The main difficulty is that preferred standards are not always adopted in appropriate time-frames by major manufacturers. In addition, manufacturers that adopt preferred standards are often not the market leader, leading to product functionality and capability issues.

**Question 19.** How can the presentation of the Preferred Standards be improved?

**New South Wales**

The Preferred Standards are currently presented more as operational guidelines rather than standards. True standards require more rigour and, particularly in information technology, must be maintained regularly, as industry standards change.

For the standards to be really useful they should be more widely promulgated and more easily accessible on the World Wide Web.

**Queensland**

The presentation is fine.

**South Australia**

The electronic version needs to be transitioned to the EVAG website ([www.flexiblelearning.net.au](http://www.flexiblelearning.net.au)) and an ongoing advisory service should be set up, to provide interpretation and advice on the standards.

**Tasmania**

The presentation of the Preferred Standards should be improved. Firstly the intended audience should be identified. If it is intended for initial distribution to managers it should be augmented with or contain a readable introduction and detail the intended audience.

**Victoria**

Updates must occur at least every 3 months, preferably via the Internet.

**Western Australia**

The acknowledgement of industry or market leading technologies would assist in the presentation of preferred standards. In addition, the open standards definitions of preferred standards should be made available so that preferred standards can be referenced through their higher-level counterparts.

**Question 20.** Which additional standards areas and operational guidelines would you like to be addressed in future Preferred Standards reviews?

**New South Wales**

Additional areas should include platforms and tools for on-line delivery of learning.

**Queensland**

1. Multimedia streaming (SMIL, SDP, RTSP, RTP, and RTCP)
2. Multimedia compression
3. Multimedia data types
4. XML
5. Integration of training delivery and training management systems (IMS)
6. Electronic whiteboard sharing
7. Workflow
8. Meeting scheduling (iCalendar, vCalendar)
9. Java and Javascript
10. DVD
11. Thin client

**South Australia**

1. IMS – considerably enhance the interoperability and reduce the costs of implementation and provide some future proofing of procurement decisions.
2. Firewalls, while maintaining security and removing barriers to connectivity of interoperating systems and functions.
3. XML, DHTML, CSS
4. Media streaming
5. Smart Cards

**Tasmania**

See covering statement in Q10.

**Victoria**

Seriously investigate effective ICT infrastructure, Cataloguing/Metadata/XML.

**Western Australia**

Convergent technologies, particularly video, television and the Internet.

**Question 21.** Would there be benefit in having the preferred standards review process operate on a continuous basis with faster response times to developments in standards and questions from training organisations?

**New South Wales**

If providers are to take the standards seriously they require a process of continual review and enhancement, in both rigour and scope.

**Queensland**

Yes. An effective process must be found to maintain these standards. Old and out-of-date standards are of no use. Timely responses are needed to questions about adoption of new standards and operational use of existing standards.

**South Australia**

See answer to Q18.

**Tasmania**

See covering statement in Q10.

**Victoria**

See answer to Q18.

**Western Australia**

Certainly this would assist organizations in adopting standards, however, any new process should reference existing standards organizations such as ISO, IETF and ITU.

**Question 22.** Other comments on the implementation of standards.

**New South Wales**

In NSW, there are whole of government initiatives in IT that incorporate standards for the public sector. It is important that the Preferred Standards reflect these standards.

Careful examination of the published Preferred Standards reveals that they are less rigorous and definitive than those current in NSW DET.

NSW DET, as a statewide organisation, has for many years applied its own internally developed standards. These are subject to continual review and enhancement to reflect changing requirements and technological advances.

NSW DET standards are developed and maintained by its Information Technology Bureau. The standards form the basis for tender specifications from which a list of preferred suppliers of technology is prepared. It is usual that suppliers of equipment on period contract increase the specification of equipment during the term of the contract, for no additional cost.

**Queensland**

The Preferred Standards Project will need to “sell” the use of the standards on the basis of the benefits to be achieved.

**South Australia**

SA has a major VLE project underway which will need to take into account current and updated standards, especially IMS.

**Tasmania**

For successful implementation of future standards there needs to be ownership. It will be necessary to resolve where VET preferred standards fit within whole of government and Department of Education standards.

How does this relate or is it integrated with other EdNA projects such as toolboxes

**Victoria**

There have been some difficulties in answering a number of these questions as they require knowledge from a centralised perspective, implying that the state VET authority has directive control at the delivery level. This is not true for Victoria where a high degree of autonomy is maintained at the provider level. Consequently much of the detailed knowledge desired can only be obtained through a system-wide evaluation.

**Western Australia**

No comments.

### **3.3 Specific Projects**

**Question 23.** Please describe any major training projects implemented in accordance with the Preferred Standards and indicate the particular standards and operational guidelines that were relevant. Please provide the information for **each** of the projects. Where you are unable to provide information please write "Unknown". A proforma is on the next page.

#### **New South Wales**

Unknown.

#### **Queensland**

No major Departmental training project has been based on the Preferred Standards.

## South Australia

1. Name of initiative                      [Online Delivery Platform Pilot](#)
2. Responsible organisation            [TAFE South Australia](#)
3. Contact person name                [Neil Strong](#)
4. Phone                                    [08 8207 8672](#)
5. Fax                                        [08 8207 8560](#)
6. E-mail                                    [neils@tafe.sa.edu.au](mailto:neils@tafe.sa.edu.au)
7. Brief description of project  
  
[A pilot implementation of an online delivery platform](#)
8. Technology platform (eg. static html website, database driven website, Linux operating system, Microsoft/ASP platform)  
  
[WebCT, HP/UX](#)
9. Preferred Standards utilised in the project.  
  
[HTML, Java, Email](#)
10. How were the preferred standards utilised for example in tender documents, evaluation criteria, general technology directions, and integration with other technologies?  
  
[In decision making – evaluation criteria](#)
11. Did the preferred standard perform the function required by the project team?  
  
[Yes](#)
12. Suggestions for how the standards could be improved for use in this process.
13. Other comments

1. Name of initiative [VLE Project](#)
2. Responsible organisation [DETE, South Australia](#)
3. Contact person name [Phil Hart](#)
4. Phone [08 8226 7854](#)
5. Fax
6. E-mail [hart.phil@saugov.sa.gov.au](mailto:hart.phil@saugov.sa.gov.au)
7. Brief description of project  
[Development of functional requirements of online virtual learning environment](#)
8. Technology platform (eg. static html website, database driven website, Linux operating system, Microsoft/ASP platform)  
[N/A](#)
9. Preferred Standards utilised in the project.  
[Incorporated in the project](#)
10. How were the preferred standards utilised for example in tender documents, evaluation criteria, general technology directions, and integration with other technologies?  
[N/A](#)
11. Did the preferred standard perform the function required by the project team?  
[N/A](#)
12. Suggestions for how the standards could be improved for use in this process.  
[N/A](#)
13. Other comments

## Tasmania

1. Name of initiative: Skill Centres
2. Responsible organisation Office of Vocational Education and Training, Tasmania
3. Contact person name: Graham Walsh
4. Phone: (03) 6233 7151
5. Fax (03) 6234 6806
6. Email: graham.walsh@central.tased.edu.au
7. Brief description of project  
An attempt was made to use the VET Preferred Standards when establishing the skill centres. However for interoperability and communication between different skill centres in the state and with State based schools it was necessary to use Department of Education standards.
8. Technology platform (eg. static html website, database driven website, Linux operating system, Microsoft/ASP platform)
9. Preferred Standards utilised in the project.
10. How were the preferred standards utilised for example in tender documents, evaluation criteria, general technology directions, and integration with other technologies?
11. Did the preferred standard perform the function required by the project team?
12. Suggestions for how the standards could be improved for use in this process.
13. Other comments

## Victoria

1. Name of initiative: Development of Online Resources
2. Name of person who compiled this response: Mark Bevelander
3. Position of person who compiled this response:  
Unit Manager Flexible Learning Innovation & Infrastructure
4. Address: 2 Treasury Place, East Melbourne, 3002
5. Phone: 03 96372655
6. Fax: 03 96373160
7. Email: [bevelander.mark.m@edumail.vic.gov.au](mailto:bevelander.mark.m@edumail.vic.gov.au)
8. Brief description of project  
This project was presented to all Victorian TAFE providers to submit for funding to develop resources for delivering accredited TAFE programs online. The funding amount was \$3m over 2 years with two sets of submissions.
9. Technology platform (eg. static html website, database driven website, Linux operating system, Microsoft/ASP platform)  
The platform is the TAFE Virtual Campus which is a proprietary system, database driven using a Microsoft Internet Information Server.
10. Preferred Standards utilised in the project.  
The Standards used for reference and directions were the PC and Internet and Java standards.
11. How were the preferred standards utilised for example in tender documents, evaluation criteria, general technology directions, and integration with other technologies?  
The standards stated above were used as mandatory requirements within the submission guidelines.
12. Did the preferred standard perform the function required by the project team?  
These standards were adequate for this requirement.
13. Suggestions for how the standards could be improved for use in this process.
14. Other comments

**Western Australia**

No projects implemented in accordance with the Preferred Standards.

## 4 Discussion

### 4.1 Issues

The main issue surrounding standards and their use, as discussed by the respondents, is the anticipated benefits of interoperability – between systems, institutions, staff, and students – which standards will bring.

The five common points from the responses are identified below, together with possible solutions.

#### Issue 1

Some of the answers indicate that there is still confusion about the relationship between standards and brands. In some camps, mandating a brand is taken as setting a standard. This approach does not produce the benefits of open standards.

#### Possible Solution

Together with the education and training process mentioned in the next issue, VET should include information that highlights the importance and benefits of open non-proprietary standards.

#### Issue 2

The 1998 Preferred Standards were not known or not understood. Descriptions included “insufficient awareness”, “few had heard of [them]”, “incomprehensible”, “unclear about who was the intended audience”.

#### Possible Solution

This issue was highlighted early in the process of developing the 2000 Preferred Standards. The Steering Committee for this project has required a Communication Plan be drafted for promoting not only the 2000 Preferred Standards but also a complimentary set of User Guidelines. The aim is to increase the awareness of the standards and assist with their ease of use.

A suggestion for increasing accessibility of the standards is to place them on the EVAG website.

The 2000 Preferred Standards have an audience that includes

- VET staff from a variety of areas including Management, Administration, Information Technology, Procurement, and Training
- Students
- Government officers eg. from ANTA

For this reason, they aim to provide background information for non-technical as well as technical readers.

Additionally, training for staff, especially those in the procurement sector of VET, has been noted as an issue requiring further consideration.

#### Issue 3

There was the possibility for conflict between the VET Preferred Standards and standards prescribed by

- state agencies. For example, NSW has invested significantly in developing standards for the Department of Education and Training, and these are used in preference to VET Preferred Standards. Tasmania has a Whole-of-Government Internet Standard. Queensland uses a series of standards including those from the Department of Communication and Information, Local Government and Planning, and those from DETIR IT Policies and Standards.
- state whole-of-government initiatives
- EdNA projects eg. toolboxes
- international standards bodies eg. IETF, ISO.
- vendors – proprietary “standards”.

This led to uncertainty about ownership of the VET Preferred Standards.

#### **Possible Solution**

This issue requires further collaboration and input from the various jurisdictions.

#### **Issue 4**

The VET Preferred Standards were no longer current. “[They] are now 18 months old”.

This led to maintenance issues. “The speed of development in the client computer market is such that standards are effectively obsolete immediately after or even before publication.”

#### **Possible Solution**

Suggestions for maintaining the standards included

- Conducting annual or even quarterly reviews in rigour, scope and technology
- Setting up an ongoing advisory service to provide interpretation and advice on the standards.

#### **Issue 5**

It is difficult to support open standards. “The Department concentrates on uniformity of product brands rather than on standards for interoperability. This makes support of the Department’s computer systems easier... Support is simplified if interface standards are ignored and products from a limited number of manufacturers are used.”

The widespread use of the same proprietary standards have also increased interoperability between organisations.

#### **Possible Solution**

The provision of an advisory service for the Preferred Standards would assist those who need to support these standards. Greater education in the benefits of national Preferred Standards may encourage organisations to support open standards.

### **4.2 Further work**

The following specific technologies and topics were identified as requiring review in the future:

1. IMS - Integration of training delivery and training management systems.  
Considerably enhance the interoperability and reduce the costs of implementation and provide some future proofing of procurement decisions.
2. Effective ICT infrastructure, platforms and tools for on-line delivery of learning.
3. Convergent technologies, particularly video, television and the Internet.
4. Multimedia streaming (SMIL, SDP, RTSP, RTP, and RTCP)
5. Multimedia compression
6. Multimedia data types
7. XML
8. DHTML
9. CSS
10. Cataloguing
11. Metadata
12. Workflow
13. Electronic whiteboard sharing
14. Meeting scheduling (iCalendar, vCalendar)
15. Java and Javascript
16. DVD
17. Thin client
18. Firewalls, while maintaining security and removing barriers to connectivity of interoperating systems and functions.
19. Smart Cards

## **5 Conclusion**

This report has collated the responses to the Preferred Standards survey from the various state jurisdictions

## Appendix A – Survey questionnaire

### **VET Preferred Standards Survey** ***Supporting National Cooperation in Applying Technology to VET***

Questionnaire prepared by the Co-operative Research Centre for Enterprise Distributed Systems Technology (DSTC).

DSTC is undertaking an investigation on behalf of the EdNA VET Advisory Group to review and update The Preferred Standards<sup>2</sup> which were developed in 1998 as part of an ongoing process for developing and maintaining standards. The Preferred Standards to Support National Cooperation in Applying Technology to VET were endorsed by ANTA CEOs on 2 March 1999.

The survey aims to gather information about the standards, their relevance to VET organisations, and their use in various initiatives. The survey's intention is

- to inform us about the relevance of standards within projects
- to gather information about initiatives and projects that have used the standards
- to help us identify opportunities for improving the preferred standards
- to identify constraints and barriers to the use of the preferred standards.
- 

The survey is part of the Strategy 2000 Project Preferred Standards to Support National Cooperation in Applying Technology to Vocational Education and Training, which in turn is part of the larger ANTA project Framework for National Collaboration in Flexible Learning in Vocational Education and Training 2000 – 2004: Strategy 2000.

#### ***How to Respond***

The survey is available in electronic form to assist in the preparation of responses. The document is on the project website at <http://vetpst.dstc.edu.au/survey/survey.rtf> Please arrange for the file to be downloaded, edited to include your response, and returned by email to

[vetpst-survey@dstc.edu.au](mailto:vetpst-survey@dstc.edu.au)

by Friday 25<sup>th</sup> August 2000.

The questions are deliberately open-ended to allow you and your staff to provide as much input as possible. Please be as brief or verbose as you wish.

Please arrange for the person coordinating your response to contact DSTC as soon as possible at the above email address. We will use your response to guide us in making recommendations on how to update and improve the VET Preferred Standards.

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<sup>2</sup> The report on *Preferred Standards to Support National Cooperation in Applying Technology to Vocational Education and Training* is available at <http://home.vicnet.net.au/~neptune/finrep.htm>

We appreciate the time you take to complete the survey. The results will be available from the EdNA VET Advisory Group as part of the final report on the project.

## **The Survey**

### ***Contact Details***

1. Organisation to which this response applies:
2. Name of person who compiled this response:
3. Position of person who compiled this response:
4. Address:
5. Phone:
6. Fax:
7. Email:

### ***General***

8. Please outline your view for how Preferred Standards have contributed to
  - a. Improvements in the procurement of technology,
  - b. Improvements in the deployment of technology,
  - c. Improvements in deployment of courses,
  - d. Improvements in interoperability between organisations
  - e. Improvements in interoperability between individuals within VET.
9. Please indicate any standards that you have not used and the reason.



### ***Implementation of Standards***

10. Has any specific training in Preferred Standards been undertaken for relevant staff in the design, specification, and purchasing areas?
11. If training was undertaken, what form did it take?
12. Are the Preferred Standards used in the purchase of infrastructure for training?
13. How are the Preferred Standards being addressed within training delivery functions?
14. Have other training organisations in your state or territory been advised of the endorsement of the Preferred Standards?
15. How are the Preferred Standards addressed in connection with the purchase of training with public funds?
16. How are the Preferred Standards addressed in connection with grant schemes for training?
17. What have been the benefits of using the Preferred Standards?
18. What have been the difficulties encountered in using the Preferred Standards?
19. How can the presentation of the Preferred Standards be improved?
20. Which additional standards areas and operational guidelines would you like to be addressed in future Preferred Standards reviews?
21. Would there be benefit in having the preferred standards review process operate on a continuous basis with faster response times to developments in standards and questions from training organisations?
22. Other comments on the implementation of standards.

### ***Specific Projects***

Please describe any major training projects implemented in accordance with the Preferred Standards and indicate the particular standards and operational guidelines that were relevant. Please provide the information for **each** of the projects. Where you are unable to provide information please write "Unknown". A proforma is on the next page.

## **Training projects implemented in accordance with the Preferred Standards**

1. Name of initiative
2. Responsible organisation
3. Contact person name
4. Phone
5. Fax
6. Email
7. Brief description of project
  
8. Technology platform (eg. static html website, database driven website, Linux operating system, Microsoft/ASP platform)
  
9. Preferred Standards utilised in the project.
  
10. How were the preferred standards utilised for example in tender documents, evaluation criteria, general technology directions, and integration with other technologies?
  
11. Did the preferred standard perform the function required by the project team?
  
12. Suggestions for how the standards could be improved for use in this process.
  
13. Other comments



***Further Comments***

Do you have any other comments on the preferred standards relevant to the EdNA VET Advisory Group brief that we have not covered in this survey?

Thanks for taking the time to complete this survey. Please return it to:

vetpst-survey@dstc.edu.au

by:

**Friday 25<sup>th</sup> August 2000**

## Who is DSTC?

The DSTC is a joint venture supported by the Australian Government's Cooperative Research Centres Program and over 20 participating organisations developing the technological infrastructure for tomorrow's global distributed systems.

DSTC conducts world class research, develops software, presents training courses, and provides professional consulting services. Key technology areas for DSTC include:

- Workflow, Collaborative Computing, Groupware, Notification Services,
- Knowledge Management,
- Internet Searching, Metadata, XML,
- Enterprise Architectures,
- Distributed Object Middleware, CORBA, Java,
- Distributed Databases, Data Access,
- Security, Networks, and Distributed System Management.

DSTC's headquarters are in Brisbane, Queensland, Australia, with offices in Sydney and Melbourne. Please contact us if you have any questions.

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## **Appendix B – Survey Distribution List**

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