NSW Government, Australia

AS 4590-1999 and AS/NZS 4819-2003 Standards Versus OASIS CIQ International Standards: A Comparative Study

Version 2.0

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Use of This Document

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1.0 Introduction

1.1 Purpose of the Document

This document has two purposes:

1. To provide a detailed comparison between the AS 4590-1999 Standard for Client Interchange from Standards Australia and a family of international customer information standards from the OASIS Customer Information Quality Technical Committee (CIQ). This will include an analysis of the interoperability level for both the standards.
2. To provide an analysis of the applicability of defining the AS/NZ 4819-2003 Standards for rural and urban addressing using the family of international customer information standards by OASIS Customer Information Quality Technical Committee (CIQ).

This document does not provide recommendations to which standard is more relevant for a particular application, nor does this document favor one standard to another.

1.2 Audience

This document was written for IT strategists and business managers. However, this document requires some technical IT knowledge from the reader.

1.3 Scope of the Document

This document is not intended to be a comprehensive comparison between AS 4590-1999 and the CIQ standards, but it provides some detailed information that will help to make the right choice between the two for a particular application.

2.0 Related Documents

Title	Author	Date	Owner
AS 4590-1999-1999: Australian Standard for Interchange of Client Information	Standards Australia	June 1999	Standards Australia
AS/NZ 4819-2003: Australian/New Zealand Standard for Geographic Information – Rural and urban addressing	Standards Australia	May 2003	Standards Australia
xNAL: Extensible Name and Address Language Version 2.0	OASIS CIQ TC	July 2002	OASIS CIQ TC
xNL: Extensible Name Language Version 2.0	OASIS CIQ TC	July 2002	OASIS CIQ TC
xAL: Address Language Version 2.0	OASIS CIQ TC	July 2002	OASIS CIQ TC
xCIL: Extensible Customer Information Language Version 2.0	OASIS CIQ TC	July 2002	OASIS CIQ TC
xCRL: Extensible Customer Relationships Language Version 1.1	OASIS CIQ TC	July 2002	OASIS CIQ TC

3.0 Terms and Definitions Used

AS 4590-1999	:	Australian Standard for Interchange of client information
AS/NZ 4819-2003	:	Australia New Zealand Standard for Rural and Urban Addressing
OASIS	:	The Organization for the Advancement of Structured Information Standards
CIQ TC	:	OASIS Customer Information Quality Technical Committee
XML	:	Extensible Markup Language
xNL	:	Extensible Name Language
xAL	:	Extensible Address Language
xNAL	:	Extensible Name and Address Language
xCIL	:	Customer Information Language
xCRL	:	Customer Relationships Language

4.0 Background about the different standards

4.1 AS 4590-1999 Australian Standard

The AS 4590-1999 standard was developed by Standards Australia in 1999 and is based on a document originally drafted by the inter-government Client Data Standards Working Group. The standard is a response to industry concern at the numerous data storage formats for customer information used within the information technology industry. Its objective is to provide industry with a common client data interchange standard that will eliminate the need for creative variations.

This standard was designed to improve matching, validation and interchange of the customer information. The main goals of the standard are:

- More effective client information gathering and usage through the reduction in the plethora of existing client information standards.
- Potential for the removal of redundant data.
- Reduced potential for inaccurate client information to be collected and maintained.
- Reduced risk of clients being incorrectly identified through poorly matched data records.
- Facilitation of more efficient processes for data matching.
- Reduced data duplication.
- Increased consistency.
- Better data management practices.
- Provision of a basis for costing data interchange.
- Potential for building and re-using generic client interchange software.

This standard was developed with participation from a wide range of businesses, including:
Australia Post, Australian Bankers Association, Australian Human Resources Institute, Australian Information Industry Association, Australian Institute of Health and Welfare, Australian Library and Information Association, Australian Taxation Office, Centrelink, Consumers Federation of Australia, Department of Immigration and Multicultural Affairs (Federal), Indigenous Information Industries Group, National Exchange of Police Information, Office of Information Technology (NSW), Telecommunications carriers, University of Melbourne, MasterSoft International and few others.

4.2 AS/NZ 4819-2003 Australian/New Zealand Standard

The AS/NZ 4819-2003 Australian/New Zealand Standard was prepared by the Street Address Working Group of the Intergovernmental Committee on Surveying and Mapping for the Joint Standards Australia/Standards New Zealand Committee IT-004, Geographical Information to supersede AS/NZS 4724:2000, Geographic information—Rural addressing.

The objective of this Standard is to provide users with a comprehensive guide that encompasses all aspects of rural and urban addressing. As such, this standard incorporates and makes references to a number of existing standards and jurisdictional guidelines relating to different aspects of addressing. This document incorporates information from the following:

- AS4212 Geographic information systems—Data dictionary for the transfer of street addressing information
- AS 4590-1999 Interchange of client information

In addition, this standard includes other aspects of addressing not found, or insufficiently dealt with, in the existing standards and jurisdictional guidelines. This standard should normally apply to all addresses in Australia and New Zealand.

4.3 OASIS Customer Information Quality International Standards

With the acceptance of XML as the de facto standard for exchange of information, there has been widespread development of XML standards for various subject areas.

There are a number of customer information standards (incorporating name and address) available throughout the world. To a large extent, these standards have been designed with a particular business requirement for a specific country in mind – for example, the expedient delivery of a piece of mail. This has generally meant that while the particular standard is appropriate for the purpose for which it was designed, it is unlikely to be suitable for a variety of other purposes.

A Customer Information Quality Technical Committee (CIQ TC) was formed under OASIS in 1999 to develop XML standards for defining customer information. The objectives of the OASIS CIQ TC are to develop Customer Information Standards that are:

- Open
- Vendor Neutral
- Application Independent
- Global, i.e., ability to represent names and addresses of any country irrespective of culture, religion, language and geographic location
- Flexible enough to handle simple representation of customer information (Example: Simple user registration system) to complex representation of customer information (Example: name and address parsing).
- Able to define unique attributes of customers and their relationships.

The OASIS CIQ TC only defines XML vocabularies to represent customer centric information in a common format and does not:

- Define vocabulary for security of the data represented.
- Define vocabulary for transportation of the data represented.
- Define vocabulary for messages associated with the data represented.
- Define vocabulary for privacy and permissioning of the data represented.
- Validate/verify the data.
- Format customer centric data represented (e.g. Formatting of addresses).

The OASIS CIQ TC defines a customer as follows:

A customer (or also called as a "Party") could be a "Person" or an "Organisation".
An "Organisation" could be: Company (e.g. Commercial, Non Commercial), Institution (e.g. University, School), Not for Profit, Association (e.g. club), Public Service (e.g. Railway Station, Post Office), a Group (e.g. Standard body), etc

Following are the OASIS CIQ TC approved Standards for Customer Information Management:

4.3.1 Extensible Name Language (xNL)

This OASIS standard defines an XML vocabulary for representing Customer Names. XNAL is designed to satisfy the following criteria:

- About 36+ customer name formats
- Addresses of 241+ Countries
- With about 130+ Address Formats
- Represented in 5,000+ languages (dialects)
- Should be application independent
- Should be Platform independent
- Should be open and
- Should be vendor neutral.

4.3.2 Extensible Address Language (xAL)

This OASIS standard defines an XML vocabulary for representing Customer Addresses

4.3.3 Extensible Name and Address Language (xNAL)

This OASIS standard is a container that uses xNL and xAL standard to represent Customer Name and Address

4.3.4 Extensible Customer Information Language (xCIL)

This OASIS standard defines an XML vocabulary to represent customer centric unique attributes in addition to name and address (e.g. date of birth, phone, e-mail, sex, age, etc). This standard uses xNL and xAL standards.

4.3.5 Extensible Customer Relationship Language (xCRL)

This OASIS standard defines an XML vocabulary to represent customer-to-customer relationships such as person-to-person relationship, person-to-organisation relationship and organisation-to-organisation relationship. This standard uses xCIL, xNL and xAL standards.

The relationships between the four OASIS CIQ standards are shown in *Figure 1*.

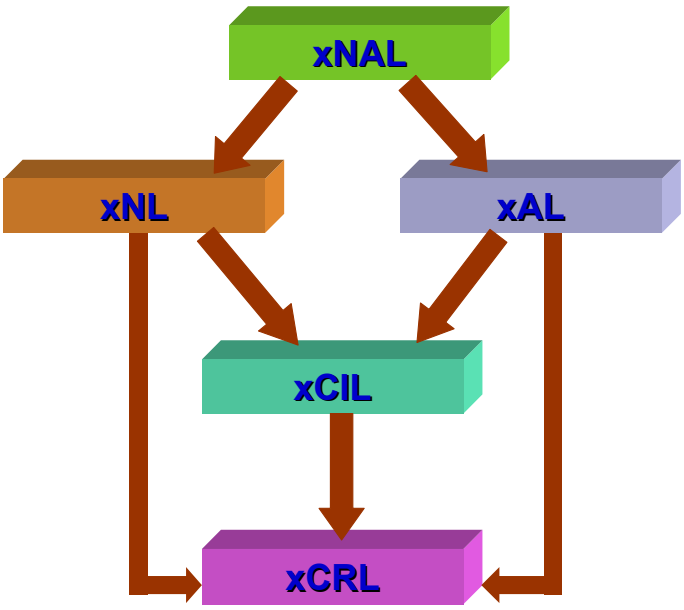


Figure 1 *Relationship between the four OASIS CIQ Standards*

These standards were developed in a truly open manner involving input and feedback from general public, vendors, end users, etc from around the world. These standards are now widely adopted throughout the world by vendors, end users, solution providers, standard consortiums, private sector organisations and public sector agencies including several e-government initiatives.

4.3.6 The importance of a "base" customer information interchange standard

It is important that a single "base" customer information interchange XML standard is developed that can be used for various applications. For example, when an organisation implements a customer information standard, the standard should provide the flexibility for the organisation to use the same standard as the basis for various applications that use customer information data.

An organisation could use customer information (e.g. name and address data) for **some or all** of the following applications:

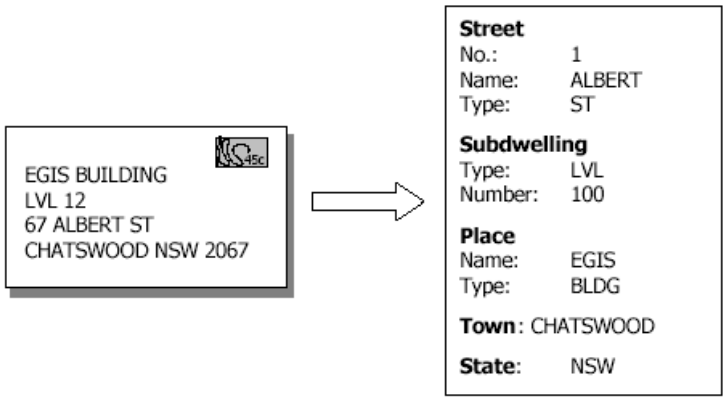
- Customer Profiling/Management
- Name and address parsing
- Name and address searching
- Name and address matching
- Name and address de-duping
- Name and address verification and validation
- Name and address correction
- Bulk Mail discounts (Postal services)

As you can see from the above, name and address data can be used for various applications in an organisation. It is important that an organisation uses a single standard to represent name and address data that helps to meet the requirements of the above applications. This is the ideal and best solution. Else, the organisation will implement different standards for name and address data depending upon the type of application and will soon get caught in the expensive problem of integration of name and address information between these applications.

Therefore, the ideal solution is to use a "base" standard for customer information that can be used for various applications or can be extended to support various applications. This is precisely what the design criteria the customer information technical committee has used to develop the standards.

4.3.7 The flexibility of CIQ Standards

The CIQ Standards are designed and developed to provide the "base components" to represent customer information data for various applications and is extensible to support any applications that it does not cover. For example, to represent the results of an address parsing application (can be an application that parses international names and addresses) in a standard, the address components have to be broken into its granular form (moreover, should support different address elements of different countries) as shown in the example below:



To perform searching, matching and de-duplication on an address, address data should be represented in its granular form. For simple user registration applications (eg. Web site registrations), the address granularity is overkill. An address registration could contain the following fields:

Address Line 1
Address Line 2
Address Line 3
City
Postal Code
Country

Therefore, the name and address standard should be able to provide the flexibility to support the above address types also.

For bulk mail discounts, formatting of addresses is important in addition to address validation and verification. For formatting of addresses, the description of one or several address templates for each country is necessary. This will define a line-by-line order of presentation; identify the order of presentation and placing of the address elements in the template, and also note the optional and/or mandatory elements. This is specific to an application and the base address standard need not support this. But this application needs the granular representation of the address data and xNAL provides this and can be extended to support the address templates for address formatting.

5.0 Comparison between AS 4590-1999 and OASIS CIQ Standards

Since AS 4590-1999 covers customer name and address and other customer centric attributes, the OASIS xCIL standard is the appropriate standard for comparison.

5.1 General traits and differences

Although AS 4590-1999 and xCIL standards have many metadata elements in common, they differ at the fundamental level. This section presents a comparison of general differences and commonalities between the two.

5.2 Format

AS 4590-1999 is an abstract data model that is completely technology and platform agnostic. This standard can be used as a reference for building a relational database or specifying an interface based on a particular technology.

Being an abstract model, AS 4590-1999 leaves the responsibility for all implementation issues to other parties. It means that implementing parties have to agree on how they actually exchange the data, technologies to be used and in what physical format. This flexibility inhibits information interoperability and represents is only half the work that is needed to achieve a real level of interoperability.

AS 4590-1999 is described in plain English that makes the standard human readable only. It cannot be digested by an application to produce any sort of result without some software development effort.

In contrast, xCIL is a logical data model represented in XML. While xCIL is technology dependent (XML), it is not platform dependent because XML is platform agnostic. xCIL can be used as a reference for building a relational or object database as well as for the exchange of data between different parties. The data exchange can take place regardless of the differences between IT systems and platforms.

xCIL is described using the W3C XML Schema language and W3C Document Type Definition (DTD) language. It is human and computer readable, which means that the standard can be easily converted in an object model, platform dependent code or digested by an application in some other way.

5.3 Naming

AS 4590-1999 allows white spaces in field names. It may result in additional difficulties with implementing the standard as many programming languages and technologies do not allow this.

xCIL uses XML-compliant naming that has no white spaces and is consistent all through the standard.

5.4 Design goals

The design goals for AS 4590-1999 and xCIL are very similar, except that xCIL was designed for interoperability. Also, xCIL was designed as a global standard that is truly international and can be applied in any country of the world.

5.5 Data types

AS 4590-1999 provides a very restricted data model in terms of data types. Every field/element that may contain the actual data has a strong data type, restricted in length, has facets, lists of values and other constraints.

xCIL has only few basic constraints for the data types that are consistent through the schema. It greatly simplifies the implementation effort and provides the flexibility needed to ensure that the standard does not fall short to the ever-changing environment.

5.6 Constraints

AS 4590-1999 provides a number of application-specific constraints such as enumerations, facets, preservation of leading zeros, leading and trailing spaces, fixed length and some other constraints that are hardly used in today's software development for interoperability.

xCIL also provides several enumerations, but they are not application specific and do not constrain the application of the standard to particular areas of business.

AS 4590-1999 does not mandate if a field should be optional or mandatory, but mandates the upper cardinality limit, e.g. unbounded, no more than two fields, etc. it means that the parties have to reach an agreement about the cardinality before they can engage in any sort of data exchange.

xCIL specifies both cardinality limits – lower and upper limit, e.g. one optional element, an optional unbounded element, etc. Most of the elements are optional unless they are absolutely required, so the parties may still wish to restrict the cardinality making some of the elements mandatory and reducing the upper limit from unbounded to a finite number.

5.7 Scope

The main difference in scope between AS 4590-1999 and xCIL is that AS 4590-1999 was designed as an Australian standard only when xCIL was designed as an international standard that includes Australia.

The high level scope of entities used for AS 4590-1999 and xCIL is provided in the following table:

AS 4590-1999	xCIL
Identification number	Identification number
Person name	Person name, joint person name
Organisation name	Organisation name
Date of birth	Date of birth
Sex	Sex
Marital status (partner relationship)	Marital status and marital details
Occupation	Occupation and professional details
Country of birth	Birth Info
Country of citizenship	Passports, Residencies
Industry	Industry code
Telephone number details, facsimile, electronic addresses, except www and email addresses	Telephone number details, facsimile, electronic addresses, URLs, email addresses, pagers, etc.
Address details—physical and postal	Address details – any international address can be represented using this structure.
Not supported	Organisation details: branches
Not supported	Organisation details: financial indicators
Not supported	Organisation details: contact persons
Not supported	Organisation details: vehicle fleet
Not supported	Organisation or Person details: Financial accounts
Not supported	Person details: habits, hobbies, ID cards, income, spoken languages, memberships, etc.

5.8 Modularity

AS 4590-1999 comes as a single solid standard that cannot be separated into layers and modules. This affects the application of the standard because the parties have to agree to use it in full or synchronise the parts they implement or do not implement.

xCIL is a modular standard. In consists of Name (xNL), Address (xAL) and Customer Information (xCIL) modules. Each of the modules has a separate namespace that prevents the elements from mixing up and conflicting with each other. Each of the modules can be used on its own or as part of xCIL.

5.9 Copyright Issues

AS 4590-1999 copyright is quite strict. First of all, AS 4590-1999 must be purchased under license from Standards Australia. The copyright restricts the application and modification of this standard.

xCIL is a free standard that can be downloaded from the OASIS website free of charge. OASIS CIQ Standards are free of Intellectual Property Rights and does not contain any Patents and Royalties. It comes under OASIS copyright (see http://www.oasis-open.org/who/intellectualproperty.php) that allows unlimited application, modification and distribution of the standard.

5.10 XML matters

XML is the most accepted data exchange format in the IT industry and is now widely accepted as the de facto standard for data exchange and presentation. XML is one of the few technologies that has crossed platform boundaries and has growing support from almost all software vendors and end users. XML is one of the core technologies for web-services, ebXML and other information exchange frameworks.

It is very important for an interoperable solution to be based on XML because many of modern and emerging products and technologies heavily rely on XML.

6.0 OASIS CIQ and AS 4590-1999: Element by element comparison

This section provides an element-by-element comparison between AS 4590-1999 and xCIL.

The left column refers to AS 4590-1999 fields and the right column refers to xCIL elements and attributes.

AS 4590-1999: Identification details	xCIL: Identification details
Client identifier Limited to 20 characters that is not sufficient for widely used Global Unique Identifiers (GUID or UUID), e.g. 00BD43ED-60B4-494b-8B7B-388078A88F88 Occurs once only. Multiple identifiers cannot be used	CustomerID Unconstrained value. May occur multiple times.
Issuing party code Constrained to “all upper case” that will make widely used base-64 encoding inapplicable	
Client identifier type Maximum length 6 characters that is unlikely to be enough unless the value is abbreviated	CustomerID/@Type Unconstrained value.

AS 4590-1999: Person Name Details	xCIL: Person Name Details
Name title	Title
Given name	FirstName
Family name	LastName
Name suffix	Suffix
Person name type code Limited to three characters. This is insufficient for many situations	PersonName Every element under PersonName has attribute Type

AS 4590-1999: Person Name Details	xCIL: Person Name Details
Not supported	PrecedingTitle
Not supported	MiddleName
Not supported	NamePrefix
Not supported	OtherName
Not supported	Alias
Not supported	GenerationIdentifier
Not supported	GeneralSuffix

The following name can be represented as xCIL, but cannot be fully represented in AS 4590-1999:

His Excellence, Sir Jan Pierre Batiste Jnr, MD

AS 4590-1999: Person Name Details	xCIL: Person Name Details
Not supported	PersonName/FormerName
Not supported	PersonName/KnownAs
Not supported	JointPersonName

AS 4590-1999: Organisation Name Details	xCIL: Organisation Name Details
Organization name	OrganisationName
Organization name type code Limited to three characters that is not enough for many situations	OrganisationName/@Type
	OrganisationType
Not supported	OrganisationFormerName
Not supported	OrganisationKnownAs
Not supported	NameLine This elements is used throughout the xNL namespace for free text unparsed data

AS 4590-1999: Person details	xCIL: PersonInfo
Date of birth This field allows only a date in YYYYMMDD format. This format is too restrictive for some valid use cases such as when only the year and month of birth are known, but not the date.	BirthInfo This element is a complex structure that can represent full or partial birth date, place and time, and horoscope details.
Sex Allows M for “male” and F for “female”.	Gender The values are not restricted to 2 commonly used genders.
Marital status	MaritalStatus
Occupation Only one occupation can be specified. Occupations are encoded and only 6 characters are allowed. It is not enough for a free text description of someone’s occupation.	Occupations This element is a complex structure that provides extended information about the person’s occupations.
Country of birth	BirthPlace This structure allows for a full address and some additional information about the birthplace.

AS 4590-1999: Person details	xCIL: PersonInfo
Country of citizenship Only one is allowed when there are many people with multiple citizenships.	Passports CountriesOfResidence Either of these complex structures can hold citizenship information depending on the content.

AS 4590-1999: Organisation details	xCIL: OrganisationInfo
Industry code Only one code is allowed. It is too restrictive as many organisations have multiple codes. The length is restricted to 4 characters only, which is not enough for some coding systems.	OrganisationCode
Organisation type code Only 2-character ABS classification is allowed, which is not enough for some coding systems.	OrganisationInfo/@OrganisationType OrganisationInfo/@OrganisationNature These two attributes allow a free-text description of the type and nature of the organisation. The parties can agree on use of a specific coding system, such as ABS.

AS 4590-1999: Telephone number details	xCIL: ContactNumbers
Telephone prefix Allows Telstra standards only.	ContactNumber This element is a complex structure that can store any international phone number with the preferred calling time, access pin-code and extension.
Telephone number Allows Telstra standards only	
Telephone service type	ContactNumber/@Type
Telephone service comment	FreeTextLine

AS 4590-1999: AddressDetails	xCIL: AddressDetails
Flat/unit number	PremiseNumber
Flat/unit type	Premise/@Type
Level number	PremiseLocation
Level type	
Building/property name	BuildingName
Location descriptor	This feature is supported through DependentThoroughfare, SubPremise and DependentLocality structures, depending on the address level of the dependency.
House number This is a complex structure that includes house number 1, house number suffix 1, house number 2, suffix 2	PremiseNumber, PremiseNumberRange
Lot number	PremiseNumber This element should be used with the appropriate value of the Type attribute to identify the number as Lot.
Street name	ThoroughfareName
Street type code	ThoroughfareLeadingType, ThoroughfareTrailingType,
Street suffix code	ThoroughfarePreDirection, ThoroughfarePostDirection,
Postal delivery type	PostBox/@Type, MailStop/@Type
Postal delivery number This is a complex structure that includes prefix, number and suffix fields.	PostBox, MailStop

AS 4590-1999: AddressDetails	xCIL: AddressDetails
Suburb/Place/Locality	Locality, SubLocality
State/Territory Allows three characters only. Not suitable for international addresses.	AdministrativeArea, SubAdministrativeArea
Country Allows ISO 3166 values only.	Country
Postalcode	PostalCode
Delivery point identifier	AddressIdentifier

7.0 OASIS CIQ elements not supported by AS 4590-1999

The following list of xCIL elements are not supported by AS 4590-1999.

FreeTextLine
Any unparsed free text information can be placed here. The Type attribute can be used to distinguish between different types of information.

AgeInfo
This is a complex structure of a person's age as opposed to the date of birth.

Branches
This structure contains information about an organization structure.

EmailAddresses
This a collection of person's or organisation email addresses with some additional information how they should be used (private, work, on-the-site, etc.).

Ethnicity
Ethnicity information.

FinancialAccounts
This element is a collection of person's or organisation financial accounts with some extended information, such as where the account is held, when was opened, its balance, etc.

Habits
This is a collection of data about person's habits.

Hobbies
This is a collection of data about person's hobbies.

IDCards
This is a collection of data about person's ID cards, such as driver's or firearms licenses, credit cards, corporate passes, etc. This is a complex structure that contains some extended information about the card. E.g. card type, who and when issued the card, restrictions, validity, etc.

Incomes
This is a collection of data about person's income, including source and amount.

Languages
This is a collection of data about person's language abilities, including reading, speaking, listening and writing in different languages.

Memberships
This a collection of elements with information of person's memberships, their statuses, references to the membership providing organizations, etc.

Pagers
This is a collection of pager contact details for a person.

Passports
This is a list of passports held by a person with some extended information about each passport.

PhysicalInfo
This is a complex structure that contains information about person's weight, height, sizes, eye colour, body marks, etc

PhysicalStatus
E.g. alive, deceased, disabled, etc.

Qualifications
This is a complex structure that contains a list of person's qualifications, including some extended information about the qualification, such as when, where and how the qualification was acquired, etc.

RegistrationInfo
This a complex structure with organisation registration information.

ReferenceContact
This is a list of contacts for a person or organisation. This list contains extended contact information.

Revenue
This is a complex structure that contains information about the organisation revenue, including source and amount.

SizeInfo
This is a complex structure about the organisation size.

StockMarkets
This is a collection of stock market listings and indicators for an organisation.

FamilyMembers
This is a list of family members with some extended information about the relationships, dates of birth, anniversaries, etc.

Religion
This is a complex structure about the person's religion and caste.

TaxNumber
This is a just another type of identifier that is specific to taxation authorities.

URLs
This is a list of a person's or company's URLs with some usage information.

Vehicles
This is a complex structure about person's or organisation's vehicle fleet, including vehicle registration and identification details.

8.0 Conclusions

From the comparison, it is evident that xCIL is a superior standard and a superset to AS 4590-1999 that accumulates the best of AS 4590-1999 and at the same time accommodates a great deal of customer-centric data elements.

Another advantage of xCIL over AS 4590-1999 is that xCIL exists in XML form and can be applied with a minimal effort.

Moreover, xCIL is an evolving global standard that grows along with other modern technologies to meet today's industry demands.

9.0 Benefits of using OASIS CIQ Standards for Customer Information Interchange

Following are some of the key benefits of OASIS CIQ Standards:

- Developed in a truly open environment, involving general public, private organisations, public organisations, end users and others from around the world.
- Developed as a truly global, vendor neutral, application and platform independent standard.
- Modular and generic in its design that provides the flexibility to support a wide variety of applications.
- Uses XML as the language to define the standard.
- Meets the increasing demand for B2B environments involving data exchanges using XML.
- With increasing pressure to exchange critical information between national governments and government agencies, there is a strong demand for a consistent and uniform exchange of data. OASIS CIQ standards are in an ideal position to address these challenges.
- The OASIS CIQ Standards are free of Intellectual Property Rights, Patents and Royalties and are available for anyone to access and use for free.
- The Australian Federal Government and the NSW Government are strongly behind the adoption of XML as the standard for information exchange between its agencies. Use of OASIS CIQ as the XML standard for customer information management will ensure consistent adoption and use of an international XML standard for customer information.
- Has received widespread adoption around the world in private, not for profit, standard consortiums and public sectors including governments such as New Zealand and the United Kingdom.

10.0 AS/NZ 4819-2003 and OASIS CIQ Standards: Applicability

10.1 AS/NZ 4819-2003: Complex Site Addressing

One of the main characteristics of complex site addresses is that the address may represent a development or complex that has a single address in its own right and concurrently contains other individual address sites within, which may also be referenced to private roads within the complex. Examples of complex sites include retirement villages, industrial parks, gated communities, caravan parks, universities, hospitals, shopping centers and military bases. As such, sufficient information should be made available to ensure a definitive address for each internal address site.

The following section lists all the complex addresses listed in the AS/NZ 4819-2003 Standard and shows its equivalent representation using OASIS CIQ Standard namely, xAL.

Note that this is shown as a detailed breakdown of the address structure to the individual element level using xAL. xAL can also be used to provide a very abstract representation of the address and this is where xAL is flexible. Infact, all the CIQ Standards have been carefully designed to provide this level of flexibility that will enable different applications to represent customer information at different levels of details.

In the next section, we show an example that demonstrates the flexibility of xNAL Standard (uses xNL and xAL Standards).

10.1.1 Flexibility of xNAL

For example, let us see how we can use xNAL to define the following details at simple level or a detailed level as xNAL provides this flexibility:

Mr.Ram V. Kumar
C/O Privacy Link
PO Box: 773, Chatswood, NSW 2057, Australia

10.1.2 Basic Representation

```
<xNAL>
   <xNL>
      <NameDetails>
         <NameLine>Mr. Ram V. Kumar<NameLine>
      </NameDetails>
   </xNL>
   <xAL>
      <AddressDetails>
         <AddressLine Type="Line 1">C/O Privacy Link</AddressLine>
         <AddressLine Type="Line 2">PO Box: 773</AddressLine>
         <AddressLine Type="Line 3">Chatswood</AddressLine>
         <AddressLine Type="Line 4">NSW 2057</AddressLine>
         <AddressLine Type="Line 5">Australia</AddressLine>
      </AddressDetails>
   </xAL>
</xNAL>
```

10.1.3 Standard Representation

```
<xNAL>
   <Record>
      <xNL>
          <NameDetails PartyType="Person">
            <NameLine>Ram V Kumar</NameLine>
            <DependencyName PartyType="Organisation"
                            DependencyType="C/O">
         <NameLine>PrivacyLink</NameLine>
        </DependencyName>
         </NameDetails>
      </xNL>
      <xAL>
      <AddressDetails>
         <Address>POBox: 773, Chatswood, NSW 2057, Australia</Address>
      </AddressDetails>
     </xAL>
    </Record>
</xNAL>
```

10.1.4 Detailed Representation

```
<xNAL>
   <Record>
      <xNL>
         <NameDetails PartyType="Person">
            <PersonName>
               <Title>Mr</Title>
               <FirstName NameType="GivenName">Ram</FirstName>
               <MiddleName Type="Initial">V</MiddleName>
               <LastName NameType="SurName">Kumar</LastName>
            </PersonName>
            <DependencyName PartyType="Organisation"
                            DependencyType="C/O">
               <OrganisationNameDetails>
                  <NameLine>PrivacyLink</NameLine>
               </OrganisationNameDetails>
            </DependencyName>
         </NameDetails>
      </xNL>



      <xAL>
         <AddressDetails AddressType="Postal"
                         CurrentStatus="Investment"
                         ValidFromDate="1 Jan 2000"
                         ValidToDate="31 March 2000">
            <Country>
               <CountryName>Australia</CountryName>
               <AdministrativeArea Type="State">
                  <AdministrativeAreaName>NSW</AdministrativeAreaName>
                  <Locality>
                     <LocalityName>CHATSWOOD</LocalityName>
                     <PostBox Type="POBox">
                        <PostBoxNumber>773</PostBoxNumber>
                        <PostalCode>
                           <PostalCodeNumber>2057</PostalCodeNumber>
                        </PostalCode>
                     </PostBox>
                  </Locality>
               </AdministrativeArea>
```

```
            </Country>
          </AddressDetails>
        </xAL>
      </Record>
    </xNAL>
```

Some users might feel that CIQ Standards provides too much information to represent a simple customer data for their application. This is not true and the example in the previous section confirms this. CIQ Standards can be used to define customer information data in simple terms or in complex terms. It is up to the users to decide how they want to implement xNAL.

Important: Use only elements and attributes that make sense to you. Ignore the rest that are needless for you.

Enough flexibility is provided to make the name representation simple without using the detailed level of tags. Most of the elements and attributes are optional.

All the XML examples in the following sections are well formed and are validated against the xAL Standard of OASIS CIQ.

10.1.5 Airport Addresses

Warehouse 2
Eagle Drive
Jandakot Airport
200 Hope Road
JANDAKOT WA

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">WA</AdministrativeAreaName>
        <Locality Type="Suburb">
            <LocalityName>JANDAKOT</LocalityName>
            <Thoroughfare Type="Street">
                <ThoroughfareNumber>200</ThoroughfareNumber>
                <ThoroughfareName>Hope</ThoroughfareName>
                <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                <DependentLocality Type="Airport">
                    <DependentLocalityName>Jandokot Airport</DependentLocalityName>
                    <Thoroughfare Type="Road">
                        <ThoroughfareName>Eagle Drive</ThoroughfareName>
                        <Premise>
                            <PremiseName>Warehouse 2</PremiseName>
                        </Premise>
                    </Thoroughfare>
                </DependentLocality>
            </Thoroughfare>
        </Locality>
    </AdministrativeArea>
</AddressDetails>
```

10.1.6 Business/Commercial Park Addresses

Toshiba Building
Fifth Avenue
Technology Park
200-350 Dandenong Road
CLAYTON VIC

```
<AddressDetails>
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>CLAYTON</LocalityName>
                <Thoroughfare Type="Street">
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>200</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>350</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>Dandenong</ThoroughfareName>
                    <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                    <DependentLocality Type="Area">
                        <DependentLocalityName>Technology Park</DependentLocalityName>
                        <Thoroughfare Type="Road">
                            <ThoroughfareName>Fifth Avenue</ThoroughfareName>
                            <Premise Type="Building">
                                <PremiseName>Toshiba Building</PremiseName>
                            </Premise>
                        </Thoroughfare>
                    </DependentLocality>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

Suite 10
Coles-Myer Complex
380 Frankston Road
DANDENONG VIC

```
<AddressDetails>
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>DANDENONG</LocalityName>
                <Thoroughfare>
                    <ThoroughfareNumber>380</ThoroughfareNumber>
                    <ThoroughfareName>Frankston Road</ThoroughfareName>
                    <Premise Type="Complex">
                        <PremiseName>Coles-Myer Complex</PremiseName>
                        <SubPremise Type="Suite">
                            <SubPremiseNumber>10</SubPremiseNumber>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.7 Caravan Park Addresses

Site 10
Outer Road
Paradise Caravan Park
45-67 Smith Street
HERVEY BAY QLD

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">QLD</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>HERVEY BAY</LocalityName>
                <Thoroughfare Type="Street">
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>45</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>57</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>Smith</ThoroughfareName>
                    <ThoroughfareTrailingType>Street</ThoroughfareTrailingType>
                    <DependentLocality Type="Area">
                        <DependentLocalityName>Caravan Park</DependentLocalityName>
                        <Thoroughfare Type="Road">
                            <ThoroughfareName>Outer</ThoroughfareName>
                            <Premise Type="Caravan">
                                <PremiseName>Site 10</PremiseName>
                            </Premise>
                        </Thoroughfare>
                    </DependentLocality>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

Unit 4
Palms Caravan Park
39 Williams Road
SEMAPHORE SA

```
<AddressDetails>
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">SA</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>SEMAPHORE</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumber>39</ThoroughfareNumber>
                    <ThoroughfareName>Williams</ThoroughfareName>
                    <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                    <DependentLocality Type="Area">
                        <DependentLocalityName>Palms Caravan Park</DependentLocalityName>
                        <Premise Type="Caravan">
                            <PremiseName>Unit 4</PremiseName>
                        </Premise>
                    </DependentLocality>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.8 Community Development Addresses

House 5
Peace Road
Heavenly Community Village
Cairns Road
NIMBIN NSW

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">NSW</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>NIMBIN</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareName>Cairns Road</ThoroughfareName>
                    <DependentLocality Type="Area">
                        <DependentLocalityName>Heavenly Community Village</DependentLocalityName>
                        <Thoroughfare Type="Road">
                            <ThoroughfareName>Peace Road</ThoroughfareName>
                            <Premise Type="House">
                                <PremiseName>House 5</PremiseName>
                            </Premise>
                        </Thoroughfare>
                    </DependentLocality>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.9 Educational Institution Addresses

Office 2
Graphic Arts Building
O'Briens Walk
Swinburne University
130-150 High Street
PRAHRAN VIC

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>PRAHRAN</LocalityName>
                <Thoroughfare Type="Street">
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>130</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>150</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>High</ThoroughfareName>
                    <ThoroughfareTrailingType>Street</ThoroughfareTrailingType>
                    <DependentLocality Type="Area">
                        <DependentLocalityName>Swinburne University</DependentLocalityName>
                        <Thoroughfare Type="Road">
                            <ThoroughfareName>O'Briens Walk</ThoroughfareName>
                            <Premise Type="Building">
                                <PremiseName>Graphic Arts Building</PremiseName>
                                <SubPremise>
                                    <SubPremiseName>Office 2</SubPremiseName>
                                </SubPremise>
                            </Premise>
                        </Thoroughfare>
                    </DependentLocality>
```

```
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

Storey Hall
RMIT
200-270 LaTrobe Street
MELBOURNE VIC

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="City">
                <LocalityName>MELBOURNE</LocalityName>
                <Thoroughfare Type="Street">
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>200</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>270</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>LaTrobe</ThoroughfareName>
                    <ThoroughfareTrailingType>Street</ThoroughfareTrailingType>
                    <Premise Type="University">
                        <PremiseName>RMIT</PremiseName>
                        <SubPremise>
                            <SubPremiseName>Storey Hall</SubPremiseName>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.10 Entertainment/Recreational Park Addresses

Studio 8
Hollywood Boulevard
Fox Studios
470-570 Pacific Highway
BROADBEACH QLD

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">QLD</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>BROADBEACH</LocalityName>
                <Thoroughfare Type="Highway">
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>470</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>570</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>Pacific</ThoroughfareName>
                    <ThoroughfareTrailingType>Highway</ThoroughfareTrailingType>
                    <DependentLocality Type="Area">
                        <DependentLocalityName>Fox Studios</DependentLocalityName>
                        <Thoroughfare Type="Road">
                            <ThoroughfareName>Hollywood</ThoroughfareName>
                            <ThoroughfareTrailingType>Boulevard</ThoroughfareTrailingType>
```

```
                        <Premise>
                            <PremiseName>Studio 8</PremiseName>
                        </Premise>
                    </Thoroughfare>
                </DependentLocality>
            </Thoroughfare>
        </Locality>
    </AdministrativeArea>
</AddressDetails>
```

Kiosk 2
Luna Park
34-66 Beaconsfield Parade
ST KILDA VIC

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>ST KILDA</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumber NumberType="Range">34-66</ThoroughfareNumber>
                    <ThoroughfareName>Beaconsfield</ThoroughfareName>
                    <ThoroughfareTrailingType>Parade</ThoroughfareTrailingType>
                    <Premise Type="Park">
                        <PremiseName>Luna Park</PremiseName>
                        <SubPremise Type="Kiosk Machine">
                            <SubPremiseName>Kiosk 2</SubPremiseName>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
                <PostalCode>
                    <PostalCodeNumber>3182</PostalCodeNumber>
                </PostalCode>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.11 Hospital Addresses

Room 48
Department of Surgery
Royal North Shore Hospital
1-35 Herbert Street
ST LEONARDS NSW

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">NSW</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>ST LEONARDS</LocalityName>
                <Thoroughfare Type="Street">
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>1</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>35</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>Herbert</ThoroughfareName>
                    <ThoroughfareTrailingType>Street</ThoroughfareTrailingType>
                    <Premise Type="Hostpital">
                        <PremiseName>Royal North Shore Hospital</PremiseName>
                        <SubPremise Type="Department">
                            <SubPremiseName>Department of Surgery</SubPremiseName>
```

```
                        <SubPremise Type="Room">
                            <SubPremiseNumber NumberTypeOccurrence="After">48</SubPremiseNumber>
                        </SubPremise>
                    </SubPremise>
                </Premise>
            </Thoroughfare>
        </Locality>
    </AdministrativeArea>
</AddressDetails>
```

Suite 16
Level 5
Burnett Building
Park Alley
Northern Private Hospital
580-780 Plenty Road
BUNDOORA VIC

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>BUNDOORA</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>580</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>780</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>Plenty</ThoroughfareName>
                    <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                    <DependentLocality Type="Hostpital">
                        <DependentLocalityName>Northern Private Hostpital</DependentLocalityName>
                        <Thoroughfare Type="Road">
                            <ThoroughfareName>Park</ThoroughfareName>
                            <ThoroughfareTrailingType>Alley</ThoroughfareTrailingType>
                            <Premise Type="Building">
                                <PremiseName>Burnett Building</PremiseName>
                                <SubPremise Type="Level">
                                    <SubPremiseNumber NumberTypeOccurrence="After">5</SubPremiseNumber>
                                    <SubPremise Type="Suite">
                                        <SubPremiseNumber NumberTypeOccurrence="After">16</SubPremiseNumber>
                                    </SubPremise>
                                </SubPremise>
                            </Premise>
                        </Thoroughfare>
                    </DependentLocality>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.12 Marina Addresses

Marine Berth 15
St Kilda Marina
36-38 Beaconsfield Parade
ST KILDA VIC

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>ST KILDA</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>36</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>38</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>Beaconsfield</ThoroughfareName>
                    <ThoroughfareTrailingType>Parade</ThoroughfareTrailingType>
                    <Premise Type="Marina">
                        <PremiseName>St Kilda Marina</PremiseName>
                        <SubPremise Type="Marine Berth">
                            <SubPremiseNumber NumberTypeOccurrence="After">15</SubPremiseNumber>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.13 Military Base Addresses

Sergeants' Mess
Blamey Road
Simpson Army Barracks
185 Greensborough Road
YALLAMBIE VIC

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>YALLAMBIE</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumber>185</ThoroughfareNumber>
                    <ThoroughfareName>Greensborough</ThoroughfareName>
                    <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                    <DependentLocality Type="Army Barracks">
                        <DependentLocalityName>Simpsons Army Barracks</DependentLocalityName>
                        <Thoroughfare Type="Road">
                            <ThoroughfareName>Blamey Road</ThoroughfareName>
                            <Premise>
                                <PremiseName>Sergeant's Mess</PremiseName>
                            </Premise>
                        </Thoroughfare>
                    </DependentLocality>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

Shed 1
Charlesworth Parade
RAAF Williams Laverton Base
LAVERTON VIC

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">WA</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>FREMANTLE</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumber>42</ThoroughfareNumber>
                    <ThoroughfareName>Victoria Quay</ThoroughfareName>
                    <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                    <Premise Type="Port">
                        <PremiseName>Overseas Cargo Terminal</PremiseName>
                        <SubPremise Type="Shed">
                            <SubPremiseNumber NumberTypeOccurrence="After">1</SubPremiseNumber>
                            <SubPremiseNumberSuffix>F</SubPremiseNumberSuffix>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.14 Port Addresses

Shed 6F
Overseas Cargo Terminal
42 Victoria Quay Road
FREMANTLE WA

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">WA</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>FREMANTLE</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumber>42</ThoroughfareNumber>
                    <ThoroughfareName>Victoria Quay</ThoroughfareName>
                    <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                    <Premise Type="Port">
                        <PremiseName>Overseas Cargo Terminal</PremiseName>
                        <SubPremise Type="Shed">
                            <SubPremiseNumber NumberTypeOccurrence="After">1</SubPremiseNumber>
                            <SubPremiseNumberSuffix>F</SubPremiseNumberSuffix>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

Office 2
Station Pier
30-48 The Esplanade
PORT MELBOURNE VIC

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="Port">
                <LocalityName>PORT MELBOURNE</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumber NumberType="Range">30-48</ThoroughfareNumber>
                    <ThoroughfareName>The Esplanade</ThoroughfareName>
                    <Premise>
                        <PremiseName>Station Pier</PremiseName>
                        <SubPremise Type="Office">
                            <SubPremiseNumber NumberTypeOccurrence="After">2</SubPremiseNumber>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.15 Resort Addresses

Apartment 3
Seaspray Grove
Palms Holiday Resort
DUNK ISLAND QLD

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">QLD</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>DUNK ISLAND</LocalityName>
                <DependentLocality Type="Resort">
                    <DependentLocalityName>Palms Holiday Resort</DependentLocalityName>
                    <Premise>
                        <PremiseName>Seaspray Grove</PremiseName>
                        <SubPremise Type="Apartment">
                            <SubPremiseNumber NumberTypeOccurrence="After">3</SubPremiseNumber>
                        </SubPremise>
                    </Premise>
                </DependentLocality>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

Suite 5A
Paradise Holiday Village
55-65 Beach Road
HERVEY BAY QLD

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">QLD</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>HERVEY BAY</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumber NumberType="Range">55-65</ThoroughfareNumber>
                    <ThoroughfareName>Beach</ThoroughfareName>
                    <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                    <Premise Type="Village">
                        <PremiseName>Paradise Holiday Village</PremiseName>
```

```
                    <SubPremise Type="Suite">
                        <SubPremiseNumber NumberTypeOccurrence="After">5A</SubPremiseNumber>
                    </SubPremise>
                </Premise>
            </Thoroughfare>
        </Locality>
    </AdministrativeArea>
</AddressDetails>
```

10.1.16 Retirement Village Addresses

Unit 6
Centre Drive
AP Retirement Village
45-55 Jones Road
SANDY BAY TAS

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">TAS</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>SANDY BAY</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumber NumberType="Range">45-55</ThoroughfareNumber>
                    <ThoroughfareName>Jones Road</ThoroughfareName>
                    <DependentLocality Type="Area">
                        <DependentLocalityName>AP Retirement Village</DependentLocalityName>
                        <Thoroughfare>
                            <ThoroughfareName>Centre Drive</ThoroughfareName>
                            <Premise Type="Unit">
                                <PremiseNumber NumberTypeOccurrence="After">6</PremiseNumber>
                            </Premise>
                        </Thoroughfare>
                    </DependentLocality>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

Apartment 34
Sea View Retirement Complex
34-38 Fraser Street
PALMERSTON NT

```
<AddressDetails>
    <AdministrativeArea Type="Territory">
        <AdministrativeAreaName Type="Abbreviation">NT</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>PALMERSTON</LocalityName>
                <Thoroughfare Type="Street">
                    <ThoroughfareNumber NumberType="Range">34-38</ThoroughfareNumber>
                    <ThoroughfareName>Fraser</ThoroughfareName>
                    <ThoroughfareTrailingType>Street</ThoroughfareTrailingType>
                    <Premise Type="Complex">
                        <PremiseName>Sea View Retirement Complex</PremiseName>
                        <SubPremise Type="Apartment">
                            <SubPremiseNumber NumberTypeOccurrence="After">34</SubPremiseNumber>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.17 Shopping Centre Addresses

Shop 45
The Mall
Casuarina Shopping Centre
48-64 Dripstone Road
NAKARA NT

```
<AddressDetails>
    <AdministrativeArea Type="Territory">
        <AdministrativeAreaName Type="Abbreviation">NT</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>NAKARA</LocalityName>
                <Thoroughfare Type="Road">
                    <ThoroughfareNumber NumberType="Range">48-64</ThoroughfareNumber>
                    <ThoroughfareName>Dripstone</ThoroughfareName>
                    <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                    <Premise Type="Shopping Centre">
                        <PremiseName>Casuarina Shopping Centre</PremiseName>
                        <SubPremise Type="Mall">
                            <SubPremiseName>The Mall</SubPremiseName>
                            <SubPremise Type="Shop">
                                <SubPremiseNumber NumberTypeOccurrence="After">45</SubPremiseNumber>
                            </SubPremise>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

Shop 56
Level 2
Tuggeranong Hyperdome
56-84 Reed Street
TUGGERANONG ACT

```
<AddressDetails>
    <AdministrativeArea Type="Territory">
        <AdministrativeAreaName Type="Abbreviation">ACT</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>TUGGERANONG</LocalityName>
                <Thoroughfare>
                    <ThoroughfareName>Reed Street</ThoroughfareName>
                    <Premise Type="Shopping Centre">
                        <PremiseName>Tuggeranong Hyperdome</PremiseName>
                        <SubPremise Type="Level">
                            <SubPremiseNumber NumberTypeOccurrence="After">2</SubPremiseNumber>
                            <SubPremise Type="Shop">
                                <SubPremiseNumber NumberTypeOccurrence="After">56</SubPremiseNumber>
                            </SubPremise>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.1.18 Sporting Venue Addresses

Office 1
Netball Stadium
Second Street
Outdoor Sports Complex
26-78 Clarence Street
BELLERIVE TAS

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">TAS</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>BELLERIVE</LocalityName>
                <Thoroughfare Type="Street">
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>26</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>78</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>Clarence</ThoroughfareName>
                    <ThoroughfareTrailingType>Street</ThoroughfareTrailingType>
                    <DependentLocality Type="Area">
                        <DependentLocalityName>Outdoor Sports Complex</DependentLocalityName>
                        <Thoroughfare Type="Street">
                            <ThoroughfareName>Second Street</ThoroughfareName>
                            <Premise Type="Stadium">
                                <PremiseName>Netball Stadium</PremiseName>
                                <SubPremise Type="Office">
                                    <SubPremiseNumber NumberTypeOccurrence="After">1</SubPremiseNumber>
                                </SubPremise>
                            </Premise>
                        </Thoroughfare>
                    </DependentLocality>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

Gymnastics Centre
Australian Institute of Sports
2-86 Leverrier Crescent
BRUCE ACT

```
<AddressDetails>
    <AdministrativeArea Type="Capital Territory">
        <AdministrativeAreaName Type="Abbreviation">ACT</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>BRUCE</LocalityName>
                <Thoroughfare Type="Street">
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>2</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>86</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>Leverrier</ThoroughfareName>
                    <ThoroughfareTrailingType>Crescent</ThoroughfareTrailingType>
                    <Premise Type="Building">
                        <PremiseName>Australian Institute of Sports</PremiseName>
```

```
                </Premise>
            </Thoroughfare>
            <PostalCode>
                <PostalCodeNumber>7018</PostalCodeNumber>
            </PostalCode>
        </Locality>
    </AdministrativeArea>
</AddressDetails>
```

10.1.19 Townhouse Development Addresses

Unit 4
First Avenue
34-56 Brighton Avenue
GLENELG SA

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">SA</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>GLENELG</LocalityName>
                <Thoroughfare>
                    <ThoroughfareNumberRange Separator="-">
                        <ThoroughfareNumberFrom>
                            <ThoroughfareNumber>34</ThoroughfareNumber>
                        </ThoroughfareNumberFrom>
                        <ThoroughfareNumberTo>
                            <ThoroughfareNumber>56</ThoroughfareNumber>
                        </ThoroughfareNumberTo>
                    </ThoroughfareNumberRange>
                    <ThoroughfareName>Brighton</ThoroughfareName>
                    <ThoroughfareTrailingType>Avenue</ThoroughfareTrailingType>
                    <Premise Type="Apartment">
                        <PremiseName>First Avenue</PremiseName>
                        <SubPremise Type="Unit">
                            <SubPremiseNumber NumberTypeOccurrence="After">4</SubPremiseNumber>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

Townhouse 8
245 Smith Street
MANLY NSW

```
<AddressDetails>
    <AdministrativeArea Type="State">
        <AdministrativeAreaName Type="Abbreviation">NSW</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>MANLY</LocalityName>
                <Thoroughfare>
                    <ThoroughfareNumber>245</ThoroughfareNumber>
                    <ThoroughfareName>Smith</ThoroughfareName>
                    <ThoroughfareTrailingType>Street</ThoroughfareTrailingType>
                    <Premise Type="Townhouse">
                        <PremiseNumber NumberTypeOccurrence="After">8</PremiseNumber>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
```

10.2 OASIS CIQ xAL for AS/NZ 4819-2003: Complex Site Addressing - Conclusion

It is concluded from the above examples that the OASIS CIQ xAL standards will support all the complex addresses represented by AS/NZS 4819:200 Standard in detail.

10.3 AS/NZ 4819-2003: Alias Address Management

Under this standard, an alias address shall be treated as one attribute of the address site. Valid alias addresses frequently provide a useful service factor, which underlines their importance. For example, a mailing or front door address may be the key point for postal and public access, whereas alias addresses for delivery or vehicular access may be of significantly greater importance to fire or other emergency services.

Alias addresses are linked to a principal address and do not replace it.

A valid alias or alternative address may occur where a section of a highway also carries a local road name. Some jurisdictions may accept the use of formally gazetted unbounded locality names in place of the bounded locality gazetted for addressing purposes. A secondary address may exist on multiple access address sites (corner properties, rear laneways, etc.).

The following section uses some of the examples from AS/NZ 4819-2003 to show how OASIS CIQ supports the Alias Management requirements.

10.3.1 Principal Address

A principal address may be commonly known by address site name (a property/building or organization name), its number, road and locality. Address site names are commonly used in prestigious or exclusive developments. Address custodians may choose alternative access addresses as the principal address within their datasets.

Principal Address	Alias Address
58 Williamson Road SMEATON VIC	“Brindabella” 58 Williamson Road SMEATON VIC

The OASIS CIQ xAL Standard implements the above examples as shown below. Representation of the Principal and the Alias Addresses are shown in bold.

```
<xAL>
    <AddressDetails AddressType="Principal Address">
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
                <Locality Type="Suburb">
                    <LocalityName>SMEATON</LocalityName>
                    <Thoroughfare>
                        <ThoroughfareNumber>58</ThoroughfareNumber>
                        <ThoroughfareName>Williamson</ThoroughfareName>
                        <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                    </Thoroughfare>
                </Locality>
        </AdministrativeArea>
     </AddressDetails>
     <AddressDetails AddressType="Alias Address">
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
                <Locality Type="Suburb">
                    <LocalityName>SMEATON</LocalityName>
                    <Thoroughfare>
```

```
                    <ThoroughfareNumber>58</ThoroughfareNumber>
                    <ThoroughfareName>Williamson</ThoroughfareName>
                    <ThoroughfareTrailingType>Road</ThoroughfareTrailingType>
                    <Premise Type="house">
                        <PremiseName>Brindabella</PremiseName>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
</xAL>
```

10.3.2 Complex Address

Complex address types may have the alternative components as shown below:

Principal Complex Address	Alias Complex Address
Administration Block Career Institute 3-9 Roe Street JOONDALUP WA	Block 1 Career Institute 3-9 Roe Street JOONDALUP WA

The OASIS CIQ xAL Standard implements the above examples as shown below. Representation of the Principal and the Alias Complex Addresses are shown in bold.

```
<xAL>
    <AddressDetails AddressType="Principal Complex Address">
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">WA</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>JOONDALUP</LocalityName>
                <Thoroughfare Type="Ranged Number">
                    <ThoroughfareNumber>3-9</ThoroughfareNumber>
                    <ThoroughfareName>Roe Street</ThoroughfareName>
                    <Premise Type="Building">
                        <PremiseName>Career Institute</PremiseName>
                        <SubPremise Type="Block">
                            <SubPremiseName>Administrative Block</SubPremiseName>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
    <AddressDetails AddressType="Alias Complex Address">
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">WA</AdministrativeAreaName>
            <Locality Type="Suburb">
                <LocalityName>JOONDALUP</LocalityName>
                <Thoroughfare Type="Ranged Number">
                    <ThoroughfareNumber>3-9</ThoroughfareNumber>
                    <ThoroughfareName>Roe Street</ThoroughfareName>
                    <Premise Type="Building">
                        <PremiseName>Career Institute</PremiseName>
                        <SubPremise Type="Building">
                            <SubPremiseName>Block</SubPremiseName>
                            <SubPremiseNumber>1</SubPremiseNumber>
                        </SubPremise>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
</xAL>
```

10.3.3 Road Name

The road name component of an address may vary for several reasons and an example is shown below.

Principal Road	Alias Road Name
Maroondah Highway LILYDALE VIC	Main Street LILYDALE VIC

The OASIS CIQ xAL Standard implements the above examples as shown below. Representation of the Principal and the Alias Road Names are shown in bold.

```
<xAL>
 <AddressDetails>
    <AdministrativeArea Type="State">
       <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
          <Locality Type="Suburb">
             <LocalityName>LILYDALE</LocalityName>
             <Thoroughfare>
                <ThoroughfareName Type="Principal Road">Maroondah Highway</ThoroughfareName>
                <ThoroughfareName Type="Alias Road Name">Main Street</ThoroughfareName>
             </Thoroughfare>
          </Locality>
       </AdministrativeArea>
    </AddressDetails>
</xAL>
```

10.3.4 Locality

A neighbourhood within a suburb or locality, or an area covering one or more (or parts within) localities may be regarded as an acceptable alias or supplementary name. There may also be situations where a complete locality is commonly known by another name. Neighbourhood and locality names may appear in the same address line. An example is shown below.

Principal Locality Name	Alias Locality Name
GREENSLOPES	STONES CORNER STONES CORNER, GREENSLOPES

To shown the above example using OASIS CIQ xAL Standard, let us create a dummy address example for the above locality as follows:
Principal Address:
2 Warner Avenue
GREENSLOPES
NSW 1111

Address with Alias Locality Name:
2 Warner Avenue
STONES CORNER (or) STONES CORNER, GREENSLOPES
NSW 1111

The OASIS CIQ xAL Standard implements the above examples as shown below. Representation of the Principal and the Alias Locality Names are shown in bold.

```
<xAL>
    <AddressDetails>
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">NSW</AdministrativeAreaName>
                <Locality Type="Suburb">
                    <LocalityName Type="Principal Name">GREENSLOPES</LocalityName>
                    <LocalityName Type="Alias Name">STONES CORNER</LocalityName>
                <Thoroughfare>
                    <ThoroughfareNumber>2</ThoroughfareNumber>
                    <ThoroughfareName>Warner Avenue</ThoroughfareName>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
</xAL>
```

10.3.5 Corner Address Sites

Corner address sites have more than one road frontage. In such circumstances, there is the possibility that the address site may be identified using either of its road frontages as its primary. The following example of alias corner addresses apply to Australia and New Zealand:

Principal Corner Address	Alias Corner Address
321 Exhibition Street MELBOURNE VIC	National Bank Building 109 LaTrobe Street MELBOURNE VIC

The OASIS CIQ xAL Standard implements the above examples as shown below. Representation of the Principal and the Alias Corner Addresses are shown in bold.

```
<xAL>
    <AddressDetails AddressType="Principal Corner Address">
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="city">
                <LocalityName>MELBOURNE</LocalityName>
                <Thoroughfare>
                    <ThoroughfareNumber>321</ThoroughfareNumber>
                    <ThoroughfareName>Exhibition Street</ThoroughfareName>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
    <AddressDetails AddressType="Alias Corner Address">
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="city">
                <LocalityName>MELBOURNE</LocalityName>
                <Thoroughfare>
                    <ThoroughfareNumber>109</ThoroughfareNumber>
                    <ThoroughfareName>LaTrobe Street</ThoroughfareName>
                    <Premise Type="Building">
                        <BuildingName>National Bank</BuildingName>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
</xAL>
```

10.3.6 Service Addresses

A business may have a service address as a separate entity from its postal or road address. This type of address is often used for private, delivery or emergency purposes. The example below applies to Australia and New Zealand:

Principal Service Address	Alias Service Address
Myer Centre 200 Bourke Street MELBOURNE VIC	Myer Goods Entrance 280 Longsdale Street MELBOURNE VIC

The OASIS CIQ xAL Standard implements the above examples as shown below. Representation of the Principal and the Alias Service Addresses are shown in bold.

Note that in the example above, "Myer Goods Entrance" under Alias Service Address is not the name of a street or building. It could be a display board on 280 Longsdale Street.

```
<xAL>
    <AddressDetails AddressType="Principal Service Address">
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="city">
                <LocalityName>MELBOURNE</LocalityName>
                <Thoroughfare>
                    <ThoroughfareNumber>200</ThoroughfareNumber>
                    <ThoroughfareName>Bourke Street</ThoroughfareName>
                    <Premise Type="Building">
                        <PremiseName>MYER Centre</PremiseName>
                    </Premise>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
    <AddressDetails AddressType="Alias Service Address">
        <AdministrativeArea Type="State">
            <AdministrativeAreaName Type="Abbreviation">VIC</AdministrativeAreaName>
            <Locality Type="city">
                <LocalityName>MELBOURNE</LocalityName>
                <Thoroughfare>
                    <AddressLine Type="Additional Information">Myer Goods Entrance</AddressLine>
                    <ThoroughfareNumber>280</ThoroughfareNumber>
                    <ThoroughfareName>Lonsdale Street</ThoroughfareName>
                </Thoroughfare>
            </Locality>
        </AdministrativeArea>
    </AddressDetails>
</xAL>
```

10.4 OASIS CIQ xAL for AS/NZ 4819-2003: Alias Address Management - Conclusion

It is concluded from the above examples that the OASIS CIQ xAL standards can handle all the different types of alias addresses represented by AS/NZS 4819:200 Standard in detail.

10.5 OASIS CIQ xAL for AS/NZ 4819-2003: Temporal Address Information

An integral aspect is the management of time-based information pertaining to additions, deletions and modifications. This aspect provides the basis for the recording of data that may have historical/heritage significance in the future.

The data items for temporal changes are as follows:
(a) Field names:
    (i) Creation_Date
    (ii) Retirement_Date
(b) Definition Date of change to address information
(c) Format. This may comprise 2 or 3 parts—
    (i) a two part format, that is—
        (A) YYYYMMDD:hhmmss.ss date created; and
        (B) YYYYMMDD:hhmmss.ss date retired; or
    (ii) where date created may refer to creation or modification a three part format, that is—
        (A) YYYYMMDD:hhmmss.ss date modified;
        (B) YYYYMMDD:hhmmss.ss date created; and
        (C) YYYYMMDD:hhmmss.ss date retired.

The OASIS CIQ xAL Standard supports the following options for an address:

- Type of address - Postal, residential, business, primary, secondary, etc
- Status of the Address - Moved, Living, Investment, etc.
- Valid From Date – Start Date of the validity of the address (e.g. Date of creation)
- Valid To Date – End date of the validity of the address (e.g. Date of retirement)
- Usage of the address – How the address is used (e.g. Contact, communication, etc)

The “Valid From Date” and “Valid To Date” options do not have a required specific format and instead, allows for free format. To meet the requirements of the temporal address, the formats of creation and retirement dates can be applied in the “Valid From Date” and “Valid To Date”. However, temporal addressing requires an additional field as an option namely, date modified. XAL does not support this in its current version. This requirement can be considered in the next version of xAL.

10.6 OASIS CIQ xAL for AS/NZ 4819-2003: Geocoding

Geocodes are coordinates that are referenced and tied to some physical or virtual feature. Geocoded addresses fundamentally consist of coordinates associated with an address site
feature. The geocode component of an address site shall contain
(a) The datum and coordinate system being used (usually as metadata);
(b) The coordinates; and
(c) The address site feature being referenced (by individual record).

The geocode component should also contain geocode accuracy (by individual record).

OASIS CIQ xAL is primarily defined to represent addresses. However, it does provide some options for supporting additional data elements for other purposes such as postal services and geocoding. However, these options may not be complete. Some of the options are:

AddressLatitude	:	Latitude of delivery address
AddressLongitude	:	Longitude of delivery address

AddressLongitudeDirection	:	Longitude direction of address delivery
FreeText	:	Any data can be represented by using this repeatedly with a "Type"

The OASIS CIQ xAL can be extended to support other schemas through namespaces. For example, another schema specifically defined to store geocoding information can be used in conjunction with the xAL standard. This is done using the "Any" element defined in the xAL schema.

The other alternative is to extend the OASIS CIQ xAL Standard to support Geocoding information. This extension is possible because in some places xAL allows any element from a non-target namespace to be present. For example Geographic Mark-up Language (GML) elements may be put at the top address level in a xAL document. The following example illustrates use of GML for an address:

```
<xAL>
   <AddressDetails>
          <AdministrativeArea Type="State">
                 <AdministrativeAreaName>VIC</AdministrativeAreaName>
                 <Locality Type="city">
                        <LocalityName>MELBOURNE</LocalityName>
                        <Thoroughfare>
                               <AddressLine>Myer Goods Entrance</AddressLine>
                               <ThoroughfareNumber>280</ThoroughfareNumber>
                               <ThoroughfareName>Lonsdale Street</ThoroughfareName>
                        </Thoroughfare>
                 </Locality>
          </AdministrativeArea>
          <MultiPolygon xmlns="http://www.opengis.net/gml">
                 <name>name1</name>
                 <polygonMember>
                        <Polygon>
                               <name>name2</name>
                        </Polygon>
                 </polygonMember>
          </MultiPolygon>
   </AddressDetails>
</xAL>
```

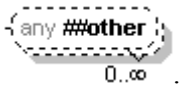
In this example the highlighted text is an insert from GML. This insert contains some fictitious geographic properties of the address and resides in "http://www.opengis.net/gml" namespace which is different from the target namespace (urn:oasis:names:tc:ciq:xsdschema:xAL:2.0).

Any number of elements from other namespaces can be placed at the very end of the AddressDetails element or anywhere where any element is allowed. E.g. the same example that was provided above can contain more than one MultiPoligon element.

This feature allows different proprietary extensions to be added to any XML document created for any of the CIQ schemas. These extensions do not affect the rest of the document they reside in because they reside in different namespaces and the processing software may ignore the unfamiliar content. These proprietary extensions may be required for situations when the customer information data has to be exchanged with some small amounts of proprietary metadata or any other type of data that is not in the CIQ standards.

However, using proprietary extensions may not server interoperability well as the other parties have to be aware about the extensions and should be able to process them. It may require some pre-processing agreements about the extensions between the parties.

See CIQ schemas for more information on locations and cardinality of the "Any" element.

For users using XML Spy editor tool to view the schemas, the "Any" element will be displayed as 

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