eInvoicing Interoperability Framework

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Digital Business Council

Executive Summary

Electronic invoicing (eInvoicing) is a broadly used term that covers the automated exchange and processing of invoice related documents between suppliers and buyers in a structured electronic format. eInvoicing is not a new concept in Australia. It is proposed that a vibrant and innovative market would be established with the development of an Australian eInvoicing Framework (Framework), a first step to fully digitising the procurement lifecycle. In turn, this would result in further business and economic benefits.

The Digital Business Council (Council) is an industry driven initiative of peak industry bodies, technology providers and Government Agencies, with the Commonwealth Government providing secretariat support. The Council is leading the creation of the Framework by setting up working groups comprising of a broad range of industry stakeholders.

The Billentis (2015) report estimates that Australian businesses issue 1.2 billion invoices a year and that electronic invoicing is 60-80% more efficient than traditional paper based processing. Widespread adoption of eInvoicing is an opportunity for transformational change in the Australian economy, with estimated savings of $7-10 billion a year (Council, 2016). There are some significant challenges to realising these benefits:

- Solution providers experience difficulty in selecting or supporting an array of complex standards, resulting in many businesses (notably small to medium enterprises) being reluctant to abandon paper invoices; and
- Large business imposes its preferred solutions (such as Electronic Data Interchange - EDI) on its suppliers, resulting in closed trading networks, where suppliers need to support (and pay for) different interfaces to each major buyer.

The aim of the Framework is to provide certainty on how a prescribed set of established open standards can be used to extend eInvoicing to all Australian businesses (including Government as a buyer), minimise the cost of implementation for software providers and enhance business interactions (especially for micro to small businesses) by making invoicing an integrated digital interaction.

Service providers can adopt this Framework to provide innovative solutions to businesses.

Businesses adopting this eInvoicing approach will need:

- a recognised business identifier;
- software and or services that are able to create or receive digital invoice data via a connection to an accredited Access Point; and
- the business identifiers of their eInvoicing trading partners (to send eInvoices).

The Council is pleased to release this eInvoicing Interoperability Framework to enable a whole of economy approach to eInvoicing.

Audience

This document is intended to assist with the early engagement of business and technology stakeholders involved in or intending to be involved in the adoption or continuation of an eInvoicing system within the business or business sector (including Government). It describes the components of a framework of business requirements, subsequent standards and implementation guidelines to pave the way for a whole of economy approach to eInvoicing in Australia. The longer term strategy is to leverage these components to digitise the complete set of business to business interactions for example, the 'procure to pay' or 'order to cash' lifecycles.

The intended audiences are:

BUSINESS & BUSINESS INFLUENCERS

Business decision makers and:

- Those involved in or intending to be involved in assisting the adoption or continuation of an eInvoicing system within the business or business sector (including Government); or
- Those involved in the identification of business requirements for solutions to support accounts receivable, accounts payable and the electronic transmission of the associated documents between businesses.

IMPLEMENTERS

Technology decision makers and:

- Those involved in the design, operation and implementation of software and services for the exchange of electronic documents or messages; or
- Those involved in the design, integration and operation of business applications dealing with invoicing.

Audience Reading Guide

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1. Introduction

1.1 Background

1.1.1 Digitisation in general

Public and private sector organisations across the globe are actively seeking to improve performance, reduce operating costs and promote economic growth through digitisation. Over the last few years several Australia wide initiatives have made significant inroads to catalyse change and introduce digital building blocks to help reduce business burden and increase productivity and efficiency. More recently, momentum around digital transformation has increased substantially and there is now an opportunity to help the entire Australian business community (including both private and public sectors) to further embrace digital solutions and enhance performance in common business practices such as business to business interactions, for example procurement of the 'procure to pay' processes/ 'order to cash' processes.

1.1.2 Invoicing

Invoicing is currently a significant cost to the Australian economy. It involves a variety of paper based and electronic forms dealing with the production, distribution, data capture, matching, reconciliation, dispute management and subsequent archiving of documents, errors, manual intervention and processing delays.

The Atradius Payment Practices Barometer (2015) survey found that, of those surveyed, one in five stated that the invoices were often sent to the wrong recipients and one in three stated that there was either incorrect information on the invoice, non-correspondence of the goods delivered or services provided were not as agreed in the sales contract.

Electronic invoicing (eInvoicing) is a broadly used term that covers the automated exchange and processing of invoice related documents between a supplier and a buyer in a structured electronic format. Although eInvoicing is not a new concept in Australia, a vibrant market for appropriate platforms and technology solutions has been hindered by a bottom-up technology approach, based around existing proprietary or closed standards.

Many large businesses in Australia have been eInvoicing for decades using electronic data interchange (EDI) technologies. These communities operate in what is called a 'hub and spoke' model. The large organisation can be thought of as the wheel hub and their trading partners connect like spokes on the wheel. The benefits of the 'hub and spoke' system are asymmetric, and accrue mainly to the large company controlling the system and eInvoicing becomes a cost of doing business to their suppliers. This effect is even more notable when those trading partners, many of whom are small to medium enterprises (SMEs) need to participate in multiple hubs, which often have different technology requirements.

For example, a small business specialising in high performance glazing and glassware may trade with different automotive, healthcare and retail hubs, each with their own software, service and cost requirements.

Recognising the opportunity for efficiency gains in 2015 the Australian Business Register, under Ministerial guidance, engaged Billentis (an international consulting firm) to provide recommendations in relation to an implementation model for a whole of economy approach to eInvoicing, where the sending, receipt and storage of invoices could be performed electronically.

1.1.3 Establishment of the Council

One of the key Billentis recommendations was to establish a Multi Stakeholder Forum to align public and private sector requirements. This has evolved into the establishment of the industry driven Digital Business Council (Council).

The Council is an initiative of business groups, peak industry bodies, technology providers and government agencies, with Federal Government providing secretariat support. The Chief Executive Officers of the Australian Chamber of Commerce and Industry and the Council of Small Businesses Australia are joint chairs.

To help businesses make best use of technology to become more efficient, the Council has made its first priority to remove the need for paper invoices in business transactions by putting the right framework in place to drive the take-up of eInvoicing in Australia.

The Council's initial objective of agreeing to an eInvoicing Interoperability Framework (Framework) that will pave the way for a whole of economy approach to eInvoicing, for all market segments for all industry sectors, is covered by this document.

The Council's other objectives (covered by separate streams of work and documents – highlighted in the later forward plan section) include:
- aligning public and private sector requirements to ensure interoperability in the market and other related processes (procurement, payment, etc.);
- creating governance systems to support the Framework;
- promoting, advocating and championing the widespread adoption of eInvoicing to improve automation and end to end electronic transactions between buyers and suppliers of goods and services;
- ensuring all business sectors (especially small and medium enterprises and software developers) are engaged and included in the process of advocating the broad-scale adoption of eInvoicing and its related standards;
- identifying and assessing barriers, gaps and opportunities at Australian and international levels to enable migration towards common standards;
- monitoring the use and uptake of eInvoicing and its related standards; and
- establishing and monitoring working groups to focus on particular areas of interoperability standards including, but not limited to, Semantic and Technical Interoperability.

1.2   Current Situation

While there are a range of disparate solutions currently in use these do not resolve the need of a whole of economy and open approach to eInvoicing. Billentis (2015), said that Australia is lagging the world in whole of economy based eInvoicing. Reports also indicate Australia is lagging behind leading markets in its response to digital disruption and adoption of new digital services (NICTA, 2015).

The Australian SME sector has also progressed into a variety of solutions to assist with the generation and receipt of invoices, for example:
- Business software can generate invoices in PDF form and send via email to buyers. This approach is also more popularly known as eBilling as it does little to automate the accounts payable process on the buyers side;
- Buyers using Optical Character Recognition (OCR) to convert PDF or paper into digital data. This approach is more successful in the case where the receiver has provided template forms (i.e. tax returns etc.) and not very successful in the case of invoicing where the formats are controlled by the suppliers, which can result in high maintenance costs and limited data integration; and
- A number of service providers to this sector have been providing commercial solutions for transfer of data using proprietary or closed standards.

Large organisations and technically advanced businesses have recognised the benefits of eInvoicing and invested in a variety of disparate trading networks to enable them to conduct business electronically.

These trading networks have, over time, come to represent technological 'islands' of digital trade. As a result:
- buyers and suppliers have to create and maintain different connections to multiple eInvoicing networks;
- SMEs have expressed concerns about issues and challenges surrounding the incompatibility and interoperability between different networks;
- sector dominant large scale businesses are able to pressure smaller players to adopt their preferred standards and technologies;
- SMEs shoulder a disproportionate cost of doing business electronically, due to the need to conform to multiple standards for connecting with multiple networks;
- software developers are reluctant to invest in developing solutions and systems without a clear and consistent eInvoicing framework; and

- the cost of entry to these networks has been a disincentive to on-boarding smaller businesses. The resulting fragmentation has impacted the efficiency and productivity within the eInvoicing landscape by increasing the level of effort and cost incurred by businesses (Billentis, 2015).

These factors present significant barriers to entry for some SMEs that wish to participate in eInvoicing. Although there are internationally recognised standards for exchanging business data, international studies and practical experiences have demonstrated that the most effective approach is to establish a standardised framework to bridge the 'islands' of digital trade and reduce these barriers. Within this framework, buyers and suppliers are not required to use the same standards (which may be desirable, but is unlikely), rather to standardise the means of bridging between the various 'islands'. This is similar to the approach used for mobile phone services (GSM) and other federated services.

Software industry representatives indicated, during the Billentis engagement, that they are seeking the leadership and consistency to define an eInvoicing framework of standards for exchanging data electronically between systems. This research indicates that whole of economy benefits would accrue by establishing an eInvoicing framework that can be easily implemented, thus allowing mass adoption.

Government across all levels represents the largest buyer in any economy and as such has significant commercial and strategic influence on the adoption of eInvoicing. International studies and practical experiences also support the view that the uptake of eInvoicing has accelerated in countries where government procurement agencies have adopted eInvoicing (Billentis, 2015). For example the European Union has set a goal of eInvoicing being the predominant form of public sector invoicing by 2020 and introduced a European law to enforce this. Supporting this strategy has been the development and implementation of the European Framework known as PEPPOL to ensure universal access to eInvoicing solutions.

2. Motivation

Considering the objectives of all stakeholders involved, with a special focus on SMEs, this industry lead initiative paves the way for a broad scale, whole of economy adoption of eInvoicing (and other digital business processes).

By initially enabling simpler and more efficient access to eInvoicing through the adoption of a coherent framework, it is anticipated that the benefits derived would extend well beyond the current participants and to the broader economy (Government included). This is particularly important for small and medium sized businesses for which the benefits of adopting full eInvoicing have been unclear and costs have been prohibitive.

2.1   Business benefits:

- Business processes would be further streamlined and enhanced through the automated data exchange and end to end processing of the invoice;
- Enhanced system and commoditised systems for reliably delivering and receiving invoices (and in the future the full 'procure to pay' cycle) by digital interaction would result in lower costs, replacing manual process and hard copy interchange;
- Overall procurement costs to buyers would reduce by increasing competition and diffusing the current state of oligopoly from the market (Billentis, 2015);
- The option to use a single Access Point for all digital transactions would reduce the costs to suppliers and/or buyers;
- Buyers and Suppliers would be able to trade with a wider pool of digitally enabled trading partners and participate in a more competitive network; and
- Businesses would be enabled to assess the benefits adopting eInvoicing to achieve the potential 60-80% efficiency gain (Billentis, 2015) against the status quo; and
- Overall efficiencies would lead to improved Buyer/Supplier relationships.

2.2   Interoperability benefits:

- 'Connect once and trade with many' would reduce the effects of market fragmentation. Businesses would be able to exchange invoices across multiple technological and organisational boundaries;

- There would be more effective and higher quality data exchanges between the various (existing and new) solutions and services;
- A simplified and coherent set of standards would reduce the technical burden of supporting multiple software components for each standard, data mapping to multiple formats, business rules and code lists; and
- Standardising on open interoperability would provide businesses with the freedom to change service providers without technology lock in.

2.3   Efficiency benefits:

- Business would gain significant performance improvements by driving efficiencies in the accounts payable function, including confirmation of receipt of invoice to the correct party;
- The solutions used by businesses would be able to exchange and process data with less manual efforts and less errors, often requiring the buyer only to signify approval for payment;
- Buyers would gain improved quality of invoice data, early error detection and reduction of overall processing times resulting in greater efficiencies;
- Business owners, managers and employees would gain the ability to conduct business everywhere; and
- Process automation would be an opportunity for businesses to introduce a capacity to measure key performance indicators, such as operational, financial and supplier metrics.

2.4   Innovation benefits:

- Creating sufficient certainty for software and solution providers would encourage innovation and investment in capabilities that support eInvoicing;
- The Framework would catalyse the launch of many SME friendly innovative solutions that enable the electronic exchange of data between businesses;
- Digital transformation would lead to new ways of doing things, often based on connecting previously disconnected capabilities; and
- A market would emerge for the creation of new business models, products and services.

2.5   Whole of economy benefits:

- For the public sector, Billentis estimated a potential annual savings of $2.4 billion to $3 billion if Australia's three levels of public administration adopted eInvoicing;
- For the private sector, Suppliers (and Buyers) would be able to use a single Access Point to exchange eInvoices with all their trading partners;
- Using open standards and best practices would maximise the ability to leverage off the shelf solutions for businesses, software developers and Government;
- An increased proportion of businesses embracing digital for productivity benefits and driving business growth would lead to macro-economic benefits; and
- Interacting with Australian business would become more attractive to international trading networks.

3. The eInvoicing Interoperability Framework

The Framework aims is to provide certainty on how a prescribed set of established open standards can be used to extend eInvoicing to all Australian businesses, minimise the cost of implementation for software providers and enhance business interactions (especially for micro to small businesses) by making invoicing an automatic digital interaction.

3.1   What is it

The Council's Interoperability Framework is based on the concept of standardising interconnections around what is called a 'four corner model'. Similar models have emerged from the financial sector (for inter-bank interoperability), telecommunications sector (for global roaming) and are already being used in many countries for eInvoicing. In Australia, the superannuation sector (via Superstream) also uses a standardised form of the 'four corner model'.

Under this logical model, businesses can send messages :
- directly to each other by implementing their own Access Points (without intermediaries);
- via a mutual 3rd party Access Point (3-corners); or
- via two independent external service providers (4-corners).

As the digital economy grows, the trend is toward the increased use of 4-corner models. However, as with rail networks, telephony systems and other communication technologies, unless standards are introduced, complex and expensive interconnections are required to connect all existing participants. The DBC Framework has proposed standards for the creation of an 'open' 4-corner model.

A key requirement for the eInvoicing Interoperability Framework is that a Buyer's or Supplier's digital address and digital capabilities may change over time. The associated challenge with using an 'open' 4-corner model is finding out what businesses are reachable and what their digital capabilities are. The Framework resolves this by establishing a business discovery service. The idea of using the 4-corner model with business discovery is a well-established and an internationally accepted solution, and an extension to the existing Superstream model.
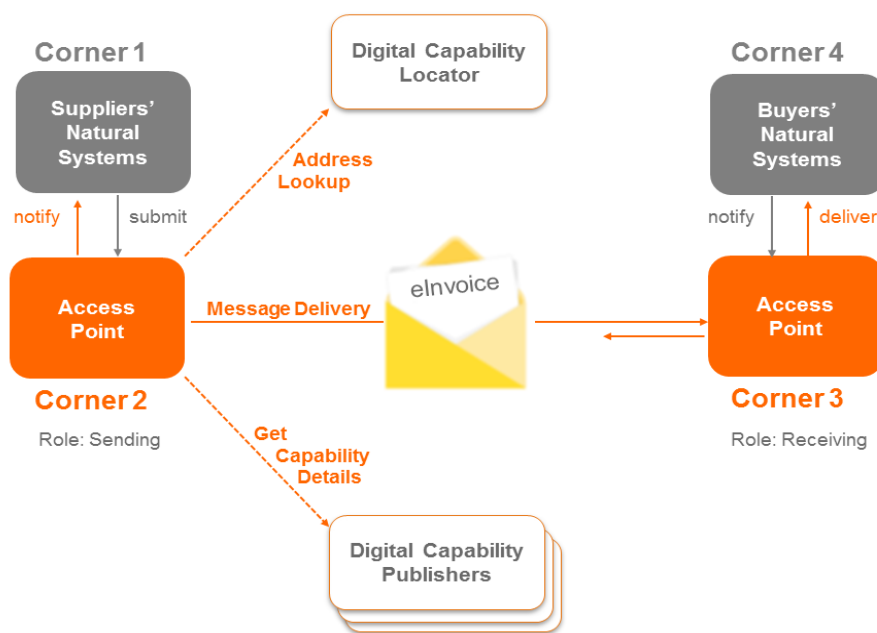

Figure 1: The Four Corner model with Business Discovery applied to eInvoicing

The actors involved in eInvoicing are:

Buyers: The Buyer is the legal person or organisation who purchases goods or services;

Suppliers: The Supplier is the legal person or organisation who provides a good or service;

Access Point: A service (in-house or outsourced) that sends and receives eInvoices and passes them on to the respective participants;

Digital Capability Locator: A service for looking up the location of the Digital Capability Publisher for a Buyer or Supplier; and

Digital Capability Publishers: Providers of a service for Buyers and Suppliers to store details of their capabilities, and includes what scenarios they can process, the data formats they support and the delivery address for their eInvoices.

eInvoicing using the Framework means that the business applications of the Suppliers and Buyers (corners one and four) do not exchange invoices directly with each other but via Access Points (corners two and three). Any organisation (such as a Buyer or Supplier) has the choice of using a third party service provider to provide an Access Point or to implement their own.

Finally, the meaning of the information in eInvoices needs to be understood by all Buyers and Suppliers regardless of the natural business systems they use, so an agreed set of information elements in a standardised data format is required for exchanges between Access Points.

3.2   How does it work

Interoperability means working together – a collaboration of systems, services and people with common understanding. An interoperability framework can be defined as the overarching set of policies, standards and guidelines that describes how organisations have agreed, or should agree, to do business with each other[1].

There are four components to the Framework:

Legislation and policy: Reducing legal or policy reasons why paper is preferred to digital. This includes recommending refinements to legislation and policy, if any, to remove impediments or barriers to adoption;

Organisational interoperability: Describing business process scenarios and standardising how businesses discover each other's digital capabilities for these scenarios;

Semantic interoperability: Standardising the data exchanged so the information is commonly understood by the parties involved; and

Technical interoperability: Technical standards and protocols to ensure information is exchanged securely and reliably between parties (directly or via service providers).

3.3   Legislation and Policy

3.3.1   Legislation

The federal, state and local governments are reviewing legislation to identify and recommend opportunities to remove impediments or barriers to adoption. Any relevant changes are expected to be published by the respective Government.

3.3.2   Policy

This Framework provides an opt-in solution and does not impact current eInvoicing solutions unless businesses choose to adopt it. This means new participants are not excluded from using or providing eInvoice services and existing eInvoice users or service providers are not excluded from future growth and development.

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[1] The eInvoicing Interoperability Framework is, therefore, not static and will have to be adapted over time as technologies, standards and business requirements change. Governance by the multi-stakeholder Council will ensure the long-term sustainability of the Framework.

Within the public sector there is ongoing work within the three levels of government to introduce policies to encourage the use of digital technologies for eInvoicing. Any relevant policy changes for the public sector are expected to be published by the Government.

3.3.3   Agreements and charges

As part of the work to provide implementation guidance and ongoing governance of the framework the Council is expected to provide interoperability agreements for service providers so that:

- There is an appropriate approach to accreditation and service levels for service providers with periodic reviews;
- There will be no charges for exchanging documents between Access Points; and

There will be an open market for providing Access Points.

3.4   Organisational Interoperability

3.4.1   Business Processes

The procurement, accounts payable, accounts receivable and sales processes of any buyers and suppliers are inextricably linked. Figure 2 shows that invoicing is one sub-process of this broader process.

While there are significant benefits in digitising the whole end to end process, overseas evidence suggests it will be more effective and achieve broader market adoption by focussing on the invoice process as the first step. Eventually, as the ecosystem matures, the entire procure-to-pay process will be digitised (Penttinen, 2008).

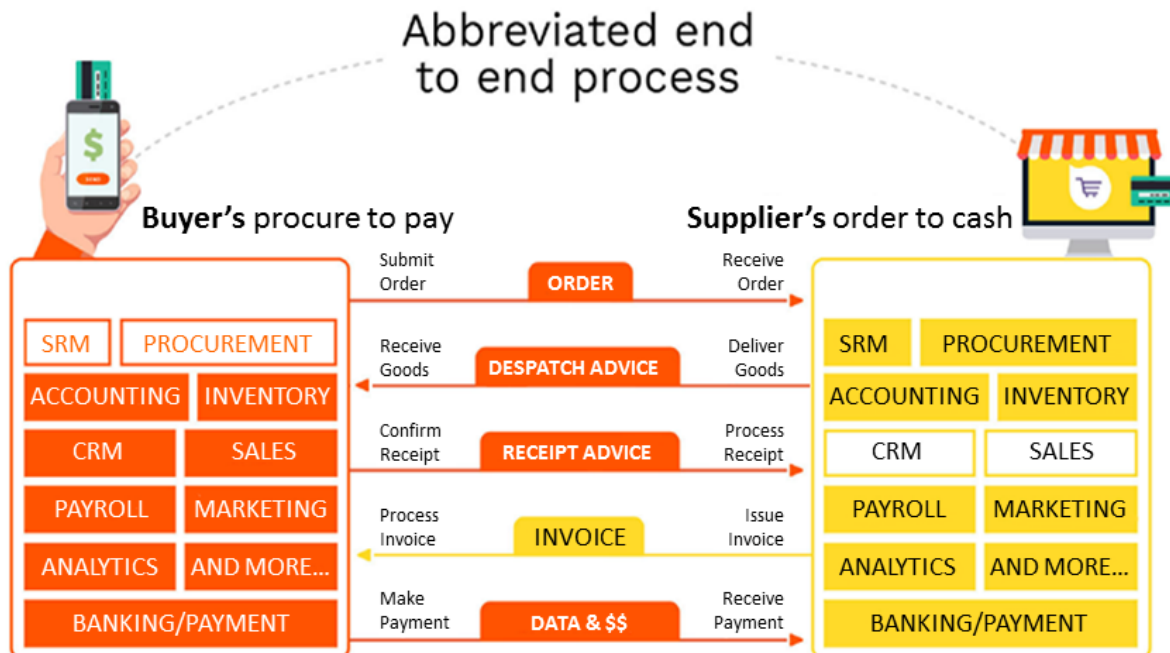Figure 2 - Abbreviated procure to pay process

It is also recognised that procure to pay forms one part of an overall set of supply chain processes, such as the financial supply chain (dealing with banking/payment) and the logistical supply chain (dealing with receipt/delivery of the purchased items). Information flows into and out of these processes and so suitable interfaces will also be required.

Business scenarios

The business processes introduced in this document are industry neutral and depict a generic cross-industry set of scenarios.

Scenario One: Invoicing (and Adjustment Invoices)

1. **Supplier's business application to Supplier's Access Point (CORNERS ONE to TWO)**
The Supplier's business application (for example, an accounts receivable system) creates an invoice detailing purchase(s) made by the Buyer. The Supplier sends this invoice data to their Access Point[2].

2. **Supplier's Access Point to Buyer's Access Point (CORNERS TWO to THREE)**
The Supplier's Access Point transforms the Supplier's invoice data to the standardised eInvoice data format (if it is not already in that format). The Supplier's Access Point then uses the Business Discovery service (defined later in this document) to determine the address of the Buyer's Access Point before forwarding the eInvoice to that Access Point.

3. **Buyer's Access Point to Buyer's business application (CORNERS THREE to FOUR)**
The Buyer's Access Point transforms the eInvoice data format to the Buyer's required format (if they differ) and delivers this to the Buyer's business application (for example, their accounts payable system).

4. **[Optional] Buyer's business application to Supplier's business application (CORNERS FOUR to ONE)**
The Buyer may acknowledge when the invoice has been received. In which case:
- The Buyer's business application verifies the invoice and sends some form of acknowledgement to their Access Point (CORNER THREE);
- Buyer's Access Point to Supplier's Access Point (CORNERS THREE to TWO)
  The Buyer's Access Point transforms the Buyer's acknowledgement into a standardised response message (if they differ), uses the Business Discovery service to discover the location of the Supplier's Access Point and forwards the response message; and
- Supplier's Access Point to Supplier's business application (CORNERS TWO to ONE)
  The Supplier's Access Point transforms the response message into an acknowledgement format suitable for the Suppler (if required) and forwards the acknowledgement to the Supplier.

Scenario Two: Recipient Created Tax Invoice (RCTI)
With RCTIs a Tax Invoice is issued by the Party receiving the goods or services rather than the Supplier. For example, a sugar cane farmer and a mill, have entered into an agreement that the Buyer will Invoice and provide payment for a delivery of cane based on the quality of the cane. On a delivery of cane to the mill, the Buyer creates a Recipient Created Tax Invoice.

1. **Buyer's business application to Access Point (CORNERS ONE to TWO)**
The Buyer's business application creates a Recipient Created Tax Invoice detailing the purchase(s) made by the Buyer. The Buyer sends the invoice to their Access Point.

2. **Buyer's Access Point to Supplier's Access Point (CORNERS TWO to THREE)**
The Buyer's Access Point transforms the Buyer's Invoice data to the standardised eInvoice data format (if they differ). The Buyer's Access Point then uses the Business Discovery service to discover the address of the Supplier's Access Point before forwarding the eInvoice to that Access Point.

3. **Access Point to Supplier's business application (CORNERS THREE to FOUR)**
The Supplier's Access Point transforms the eInvoice data format to the Supplier's required format (if they differ) and delivers this to the Supplier's business application (for example, their accounts receivable system).

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[2] Specifying how Suppliers format and send invoices to their Access Points and how Buyers receive and process invoices from their Access Points is not currently part of the Interoperability Framework.

3.4.2 Business Identifier

A key consideration in the Framework is that all parties who may receive eInvoices (or Responses) need to be uniquely identified.

Business Identifiers are information elements that are used to establish the unique identity of businesses (organisations, agencies, branches within organisations, etc.) within the Framework. They are used to identify the parties (sender or receiver) for both business discovery and messaging exchanges. Business identifiers also appear within eInvoices themselves to identify parties such as the Supplier and Buyer. While it is common that the parties sending and receiving an eInvoice are also the Supplier and Buyer, it is not a requirement that they be so and different Business Identifiers may be used for these roles.

Framework Business Identifiers;
- Identify any Australian or international private and public sector recipient of digital documents (for example a Buyer) in a standardised and platform independent way;
- Allows multiple established identification schemes and scheme registries; and
- Are encoded in a standardised and machine process-able data format.

3.4.3 Business Discovery

Digital capability is the ability of an organisation to send and receive digital documents. The target for this digital capability is known as the digital address. For example, a Buyer will have a digital address if they are capable of receiving eInvoices. Delivering an eInvoice to their digital address will result in the Buyer be able to receive and process the eInvoice.

The Business Discovery service is a means of determining a business's digital address for a given type of document within a given process. For example, by supplying a Buyer's business identifier, the type of document (eInvoice) and the process involved (eInvoicing), the Business Discovery service will determine the Buyer's digital address for eInvoices.

However the digital capabilities registered for a business will change as their services develop and migrate over time. For example, a recipient's Access Point provider may allocate their digital addresses. A benefit of the open Framework is the freedom for businesses to connect with any Access Point provider, or even establish their own Access Points. And so these addresses may change if the Access Point changes and this impacts the registered digital capability of the recipient.

Because of these continually changing details it is necessary to dynamically discover the current digital addresses of recipients. The finer details of the Business Discovery service are discussed later the Technical Interoperability section.

3.5 Semantic Interoperability

3.5.1 How does semantic interoperability help eInvoicing

Semantic interoperability is the ability for different business applications (in this case those of Buyers and Suppliers) to recognise and process the information they exchange.

However businesses operate in different industry, geopolitical, and regulatory contexts that may necessitate different rules and requirements for the information exchanged in an invoice. Consequently, most trading communities and businesses use differing forms of invoices. Transforming the data to suit different contexts is usually required when two parties using different invoice models or formats (for example, between two different communities) need to trade. Such transformations may be a complex and expensive process prone to misinterpretations. As many Suppliers (and Buyers) trade with many different communities this complexity is common and yet another barrier to eInvoicing.

One proven approach to enabling greater interoperability is to agree upon a collection of terms with well-defined meanings that are consistent across all contexts of use. This is called the semantic model of the core elements.

A semantic model is based on the idea that common pieces of information used in an invoice may have many names, use different terminology and be expressed in different ways, but the meanings are constant and commonly understood. Semantic

models help us identify what the common pieces of information mean without the distraction of how we express this. This is similar to how drawing pictures helps people who don't speak a common language to communicate.

The semantic model is an attempt to remove the language/syntax/grammar/format from information to enable us to compare one thing with another and see if they are describing the same thing. In the software world this is very useful because:

- Technology is constantly evolving and standardising on the semantics ensures the invoice information that is standardised does not need redesigning to satisfy new technologies – formats may change but semantics do not need to; and
- When transforming an invoice between various formats the mapping of information is easier for software developers if there is a common semantic model to reference.

3.5.2   The Core eInvoice Semantic Model

The Core eInvoice Semantic Model consists of a dictionary of terms, concepts used, the minimal content of a document, the rules validating the content, the use of identifiers, and code lists. Adopting a single common semantic model promotes reliable information exchange and ensures technology neutrality. It is also easier and cheaper for enterprises to subscribe to a single model as compared to several.

The Semantic Model:

- Incorporates invoice requirements for regulatory e.g. tax, commercial, technical, financial, and industry extensions;
- Will be aligned with the Australian Reporting Dictionary (through incorporation);
- Exploits the ability to share the model and gain efficiencies of a standardised data model;
- Identifies the common case model;
- Consistent reuse of standardised definitions and meanings provides greater opportunities to optimise business processes and the ability to integrate information with further cost reduction;
- Makes use of a proven methodology; and
- The semantic model has been defined and elaborated in a consultative manner – reusing an existing international standard.

3.5.3   Digital Data Format

The Core eInvoice Semantic Model in itself does not enable software developers to create the necessary eInvoice data files to exchange. The semantic model needs to be expressed in a standardised digital data format. The term data format is used to mean the software expression of the information described by the semantic model (also called the message syntax or markup language). In the data format all the data elements, concepts and validation rules defined in the semantic model are expressed in ways computer applications can process.

It may help to remember that the semantic model is for business people to understand while the digital data format is for software developers to understand and computer programs to process.

The eInvoicing data format:

- Is based on an international standard;
- Is aligned with relevant and established international standards. Australian standards and practices will only be adopted where international standards are not applicable;
- Encompasses procure to pay documents:
- Will not inhibit the future extension to other elements of the procure to pay process;
- Has a published semantic model;
- Will not impose a particular design on internal solutions for stakeholders;
- Has an established user base;
- Has open participation and governance;
- Is open, royalty free and vendor agnostic;
- Allows development of tools that are easily available;
- Has interfaces with common business applications; and

- Enables business to business (B2B) connectivity irrespective of platform or solution to exchange electronic business transactions.

3.6   Technical Interoperability

3.6.1   eDelivery

Technical interoperability facilitates an open trading partner network where:
- Any Buyer and Supplier will be able to:
    o Send recognised digital documents to any registered trading partner through a network of approved Access Points; and
- All Access Points will:
    o Conform to the same sets of standards and business service rules;
    o Be secured, by conforming to the trust mechanism between Access Points;
    o Exchange digital documents with other Access Points using the Council approved Data Format;
    o Provide interoperability of data exchanged by supporting a common semantic model, that can be used to transform different formats as required;
    o Derive the digital address of the eInvoice recipient through the Business Discovery service; and
    o Access the Business Discovery service independent of the document exchange protocol to ensure other protocols may be supported in future.

eDelivery will create a community of federated Access Points that are all conformant to the same technical requirements and therefore capable of interacting with each other. As a result, businesses that have developed business systems independently from each other or implemented commercially-off-the-shelf (COTS) solutions/services can reliably and securely exchange digital business documents.

A greater return on investment is possible as eDelivery is document agnostic, meaning users can potentially transfer any Council endorsed structured or unstructured documents between Access Points.

The components of eDelivery include business discovery, message delivery and trust enablement.

3.6.2   Business Discovery

Two services are provided to achieve dynamic and adaptable business discovery:
- Digital Capability Locator (DCL)
  DCL lookup enables a sending Access Point to dynamically discover the digital address of the recipient's Digital Capability Publisher (using their business identifier); and
- Digital Capability Publishers (DCP)
  The sending Access Point will then use the DCP's address to discover the digital capabilities (such as digital address, document types, processes and message protocols supported) of the recipient.

Business discovery will:
- Achieve interoperability and accessibility – as information about participants (delivery addresses and transactions supported) will be easily discoverable and accessible to all parties in the framework;
- Support the expansion of the eDelivery network by allowing new businesses to join in a flexible manner; and
- Provide the ability to switch or change recipient addressing information when required.

3.6.3   Message Delivery

Message Delivery enables the exchange of any digital documents (such as eInvoices) between two Access Points in an interoperable, secure, reliable and trusted way.

Access Points implement the Message Delivery profile and ensure that data is sent and received reliably and securely.

The Message Delivery profile has the following features:
- Interoperability:
  - o Is based on an established international standard;
  - o Will support the four-corner model;
  - o Will also support a three-corner model (two business using the same third party access point);
  - o Is not dependent on the format or content of the document delivered; and
  - o Allows interactions to occur asynchronously, i.e. the receiving party can be offline;
- Security:
  - o Ensures the integrity of transmissions is preserved, such that a transmission cannot be tampered with;
  - o Supports encryption to preserve confidentiality; and
  - o Ensures the origin and destination Access Points are trusted;
- Reliability:
  - o Guarantees the data and documents are delivered once and only once;
  - o Provides certainty that the data and documents are delivered; and
  - o Ensures non-repudiation of receipt and origin of every exchange; and
- Scalability and Performance:
  - o Adapts to an increasing number of Access Points;
  - o Allows for large documents to be transmitted; and
  - o Supports high throughputs.

3.6.4   Trust Enablement

The current Framework establishes a trusted environment between accredited Access Points[3] (corners 2 and 3). Future development may also include creating a trust domain for end-to-end authentication if required.

The trust model:
- Leverages the strength of Public Key Infrastructure for security and confidentiality;
- Overcomes the complexity and scalability issues with traditional digital certificate based public key infrastructure;
- Provides freedom of choice to Access Points to maximise use of current investments; and
- Provides a viable solution until there is a national digital credential initiative, which may take time to develop and implement.

The approach taken is to leverage the experiences and successes of both local and international networks (for example, services such as PEPPOL, e-SENS and Superstream) to:
- Establish strong governance under the auspices of the Council. This would include Digital Capability Publisher and Access Point provider interoperability agreements, binding implementation practices, testing and certification arrangements;
- Ensure Business Discovery only supplies details of accredited Digital Capability Publishers and Access Point providers;
- Use digital certificates to ensure confidentiality between Access Points and to validate that messages are only received from accredited Access Points. It should be noted the mutual exchange of certificates is a widely used simple implementation of the Direct Trust Model. Due to the limited scalability of mutual certificate exchange, the approach of recording public keys with the Council's centralised register of accredited service providers (updated during the accreditation process) is prescribed. To cater for business application level trust a similar model could potentially be used, with the storage of a business certificate in its Digital Capability Publisher; and
- Allow businesses to have a choice of accredited Digital Capability Publishers and Access Points, with businesses also being able to choose to implement their own accredited Access Points and Digital Capability Publishers.

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[3] Defining a trusted end-to-end environment for the exchange of eInvoices between suppliers and buyers is currently out of scope as this is covered by commercial agreements and service arrangements between Buyers and Suppliers and their Access Point providers. If a business implements its own Access Point then trust between the business software and the access point is an internal arrangement.

4. Technical Specifications

4.1   Summary of Services

This chapter provides more information on the technical specifications underpinning the Interoperability Framework components. The approach employed by the Framework is to promote the use of existing technical specifications and standards rather than to define new ones. The profiling work of Superstream, the European e-SENS project, CEN TC434 and BII Workshop as well as the OpenPEPPOL community have been evaluated as part of the Council's implementation of these services.

Table 1 summarises Service specifications and standards.

Service	Component	Key Specifications
Message Delivery	Access Point	Council profile of the OASIS version 1.0 of the Applicability Statement 4 (AS4) Profile of the ebXML Messaging Services (ebMS) 3.0 standard – ebMS3 AS4
Business Discovery	Digital Capability Locator (DCL)	Council profile of the OASIS Business Document Metadata Service Location Version 1.0 (SML) Version 1.0 committee specification
	Digital Capability Publisher (DCP)	Council profile of the OASIS Service Metadata Publishing (SMP) Version 1.0 committee specification
	Business Identifiers	Council policy on the use of business identifiers
eInvoicing	Semantic model	Council semantic model of the core elements of an electronic invoice
	Data Format	Council profile for OASIS UBL 2.1

Table 1 - Summary of Technical Specifications

The above specifications are all further described in the documents outlined in Section 5 and can be implemented using commercial or Open Source software.

4.2   Service Details

4.2.1   Message Delivery – Access Point

To achieve interoperability between participants in an electronic messaging network, the sending and receiving Access Points must use the same messaging protocol. A published profile for electronic messaging provides a common specification for solution providers. This ensures compatibility between implementations and increases the market for solutions providers.

The profile for Message Delivery is based on the AS4 Conformance Profile of the OASIS ebMS 3.0 standard and is a subset of the ebHandler profile. As such this profile:
1. Does not require implementation of any unnecessary features of ebMS3/AS4. For example, only the basic store and forward functionality should be required; and
2. Does not implement advanced ebMS3/AS4 features (such as security and reliability), which may be more effectively addressed at the payload level through the use of a standardised business document envelope structure.

ebMS3/AS4 has emerged as the strategic standard for a number of initiatives around the world including:
- e-Justice Communication via Online data exchange (e-codex), now evolved into e-SENS;

- Electronic Exchange of Social Security Information (EESSI);
- European Network of Transmission System Operators for Gas (ENTSOG);
- European test bed for the maritime common information sharing environment in the 2020 perspective (EUCISE);
- International Air Transport Association (IATA); and
- The Australian standard for processing superannuation data and payments electronically (SuperStream).

Implementations of the ebMS3/AS4 are available in both Open and Closed Source format and products can be certified to ensure strict adherence to the specification.

4.2.2 Business Discovery – Digital Capability Publisher

A Digital Capability Publisher (DCP) identifies a business' capabilities for receiving digital documents (such as eInvoices). These capabilities include what processes and data formats they support and the digital address for delivering documents. Additional metadata information may be required to facilitate establishing mutual trust between businesses.

The OASIS Service Metadata Publishing (SMP) specification describes a solution that is fit for purpose and specifically addresses the concerns for a business' metadata registry. SMP has been published as an OASIS Committee Specification and has been proven in established European environments (such as PEPPOL). This standard has also been adopted by e-SENS as one of their e-Delivery building blocks. Open source components are available[4] and there are over 35 implementations within the PEPPOL and e-SENS communities.

It is expected that the DCP profile will be implemented by number of DCP providers. Having multiple providers will allow the network to scale as the number of registered businesses and capabilities increases. DCP providers will need to make their own decisions on whether to implement the specification independently or use an open source component. DCP providers and the businesses they register are responsible for the privacy and integrity of their own capability information.

4.2.3 Business Discovery – Digital Capability Locator

As it is expected that there will be many DCPs another service is required to establish which DCP is used by which business identifier. The Digital Capability Locator (DCL) is a master index that associates a business identifier with the DCP containing the relevant digital capabilities of the business. There is only one DCL in the eDelivery framework. Access Points query this DCL to find which DCP they subsequently query to obtain the correct digital address for the document to be sent.

Business Discovery uses the OASIS Business Document Metadata Service Location Committee Specification (referred to as Service Metadata Locator or SML). The SML specification defines service discovery method values for use in Domain Name System (DNS) resource records. It is an application of the more generic Dynamic Delegation Discovery Services (DDDS) as defined in multiple RFCs. DNS is critical to internet and telephony services, which need a readily available, highly reliable and a proven, lightweight and distributed solution. As SML uses standard DNS, several implementation options are available including open source.

SML was developed as part of PEPPOL transport infrastructure service and has subsequently been published by OASIS as a Committee Specification. The OASIS specification has now been adopted by e-SENS as part of their e-Delivery building block[5].

To ensure availability, accuracy, efficiency and adherence to the specification, the eDelivery DCL requires a separate, formalised governance model with associated testing and certification.

4.2.4 Business Discovery – Business Identifiers

A key consideration is that parties exchanging eInvoices (businesses) need to be uniquely identified within the Interoperability Framework.

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[4] https://github.com/phax/peppol-smp-server/wiki
https://joinup.ec.europa.eu/software/cipaedelivery/asset_release/cipa-e-delivery 5.
https://joinup.ec.europa.eu/software/cipaedelivery/asset_release/cipa-e-delivery

The Council's Business Identifier policy establishes a scheme for uniquely identifying parties where a business identifier is a combination of:

    a. An issuing agency code from a controlled set for identification schemes, using International Code Designators (ISO/IEC 6523); and

    b. A value provided by the issuing agency

To ensure global uniqueness the business identifier value needs to be valid with respect to the authoritative source of the relevant International Code Designator. The Framework does not proscribe a specific identification schema and businesses may choose the most appropriate for their environment that satisfies the Council's Business Identifier policy.

If the receiving business is registered in Australia the business identifier would most likely be their Australian Business Number (ABN) and the issuing agency will be the ABR.

The use of ABN for the Australian business identifier will benefit the business-to-business community because:

- All eligible businesses are entitled to register for an ABN at no charge;
- The ABN is recognised as the legal business identifier in Australia;
- The ABN is currently required in Australian tax invoices;
- There exists a centralised, trusted registrar for ABNs that has implemented the necessary governance to protect the integrity of the registration process; and
- The Australian Business Register has a registered International Code Designator.

However, there are at least two scenarios where the ABN may not suffice:

1. Australian business that operating separate business units (under the same ABN) and may require different digital addresses for different eInvoices; or
2. If the receiving business is not registered in Australia.

In these scenarios the issuing agency can be chosen from the ICD set of ISO/IEC 6523 and the identifier can be a member of that identification scheme (such as a GLN, DUNS, etc.).

4.2.5   eInvoicing – Semantic Model

The semantic model of the core elements of an eInvoice defines the information elements and business rules for the taxation, verification, matching and payment requirements for eInvoicing.

It follows a proven approach based on the European standardisation work undertaken by the CEN BII Workshop and CEN Technical Committee 434 in their publication 'Electronic invoicing - Semantic data model of the core elements of an electronic invoice' (prEN 16931). Following the same approach will also aid in aligning Australian and European implementations.

The European model has been adapted for Australian requirements.

4.2.6   eInvoicing – Data Format

Adopting a common eInvoice data format will simplify the effort and minimise the cost of establishing Access Points. This is because if all eInvoices have the same data format when exchanged between Access Points only one interface needs to be supported.

The complexity (and cost and therefore barriers to entry) rises exponentially with every additional data format used. The use of one common format between Access Points (regardless of the business applications involved) is a significant factor in the Council's Interoperability Framework that separates it from being just another eInvoice solution.

The eInvoicing data format is based on the international, royalty free, open standard known as the OASIS UBL 2.1 Invoice. UBL 2.1 is also a joint publication of ISO and IEC known as ISO/IEC 19845:2015 'Information technology - Universal business language version 2.1 (UBL v2.1)'.

UBL Invoice has been implemented by 15 governments in Europe (and also between EU member states) as well as the governments of Turkey, Peru, Colombia and Panama. CEN TC 434 has also prepared bindings (mappings) of their semantic model to the UBL 2.1 Invoice data format. In many cases UBL 2.1 Invoice data format has been use in conjunction with legacy EDI formats (such as UN/EDIFACT). In these scenarios EDIFACT data formats are supported by customising the UBL Extension structure.

A large amount of XML software is available that can be configured for use with UBL 2.1. A partial list of UBL applications is published at: http://ubl.xml.org/products.

The eInvoice Profile of the UBL 2.1 Invoice has been customised to support common Australian business requirements. However, instances of these eInvoices are all conformant to the common UBL 2.1 standard as used in other parts of the world.

Payments Interface

UBL 2.1 is also designed to support basic trade financing practices (invoice financing, factoring, pre-shipment/ order financing, letter of credit, etc.). The UBL standard covers the full procure to pay lifecycle and the UBL Remittance Advice is used to transmit the details of complex remittance information associated with the finance transactions such as the ISO 20022 payment initiation process. UBL is not intended to address any multi-stage payment events such as those planned in the New Payments Platform (NPP). To address the interface between the commercial procure-to-pay and the financial payment processes, UBL 2.1 has been enhanced to support the financial information required for downstream processing of Invoices within financial services. By aligning information models, business vocabularies such as UBL for eInvoicing and ISO 20022 for the NPP can enable Straight Through Processing (STP) and paperless trading along the entire Financial Supply Chain. For example, the UBL Invoice and Remittance Advice can be used together with financial messages to ensure end-to-end transport of reconciliation identifiers (invoicing party references). In particular, UBL provides a solution for advanced external remittance, where the UBL Remittance Advice is used to transmit the details of complex remittance information associated with the ISO 20022 payment initiation process.

5. Implementation Guidance

Policy documents and implementation guidelines, including best practice guides and details are included in this release of the Framework. These are:
- Policy for Using Business Identifiers v1.0;
- Access Point Implementation Guide v1.0;
- Digital Capability Publisher Implementation Guide v1.0;
- Digital Capability Locator Implementation Guide v1.0;
- eInvoicing Semantic Model v1.0; and
- eInvoicing Implementation Guide v1.0.

6. Governance

The Council have established appropriate governance structures and procedures for the ongoing maintenance of the framework.
This release of the Framework includes:
- Interoperability agreements for access point service providers; and
- Interoperability agreements for capability publisher service providers.

7. Forward plan

This initial release of the Framework mainly covers:

    a. a set of common standards between the Access Points in a four corner network model, including business discovery; and

    b. the Invoicing (including adjustments) and Recipient Created Tax Invoicing business processes.

Once the initial release of the framework is completed the Council expects to continue its work to additionally cover:

- other business processes which includes remittance advices and payments (in collaboration with the work progressing under the New Payments Platform);
- the message structures to support the additional business processes;
- message delivery standards to support corners 1 and 4 to enable businesses to provide businesses ease of migration between Access Points;
- enhanced business discovery;
- service provider reporting; and
- additional security features such as optionally providing message confidentiality between Access Points 1 and 4.

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9. Glossary

Application programming interface (API)	A software development construct that allows software components to communicate.
Australian Business Register (ABR)	The Australian Business Register administers the Australian Government's central registry of Australian Business Numbers and other Business details.
Capability publisher	A process within the Interoperability framework that allows a client to discover a trading partner's digital capability, such as their delivery address and supported scenarios and related business documents.
CEN BII	CEN (the European standards development organisation) Workshop on Business Interoperability Interfaces (BII).
CEN TC434	CEN (the European standards development organisation) Technical Committee 434 (Electronic Invoicing).
Confidentiality	In information security, confidentiality 'is the property, that information is not made available or discussed to unauthorised individuals, entities or processes'.
Domain Name System (DNS)	The Domain Name System is a hierarchical distributed naming system for computers, services, or any resource connected to the Internet (or private network) that translates domain names into IP addresses
Digitisation	The conversion of analogue information in any form to digital form with suitable electronic devices so that the information can be processed, stored, and transmitted through digital circuits, equipment and networks.
DUNS	The Data Universal Numbering System, abbreviated as DUNS or D-U-N-S, is a proprietary system developed and regulated by Dun & Bradstreet (D&B) that assigns a unique numeric identifier.
Electronic Business Messaging Services (ebMS) Applicability Standard 4 (AS4)	A profile of the ebMS standard to facilitate the exchange of electronic business messages.
Electronic Data Interchange (EDI)	Electronic Data Interchange is an electronic communication method that provides standards for exchanging data via any electronic means.
Electronic Invoicing (eInvoicing)	eInvoicing is a broadly used term that covers the exchange of invoice related documents between a supplier and a buyer in an integrated electronic format.
e-SENS	Electronic Simple European Networked Services, a Large Scale Project (LSP) which converged a number of projects within the European Union
eXtensible Markup Language (XML)	Extensible Markup Language is a software mark-up language that defines a set of rules for encoding digital documents.

Global Location Number	The GLN is the GS1 (http://www.gs1.org) Identification Key used for any location (physical, operational or legal) that needs to be identified for use in the supply chain. The GLN is a globally unique number that can be used to access master data about a location
International Code Designator (ICD)	An identifier of an organisation identification scheme defined in ISO/IEC 6523
Interoperability	The ability of computer systems or software to exchange and make use of information.
Message level trust	The properties of a messaging system by which confidentiality, integrity, availability, accountability, authenticity, and reliability are achieved.
Non-repudiation	The ability that ensures one party of a transaction cannot deny having received a transaction nor can the other party deny having sent a transaction.
Participants	Businesses to generate or process invoices as part of their business operations
Pan-European Public Procurement Online (PEPPOL)	PEPPOL enables access to its standards-based IT transport infrastructure through access points, and provides services for eProcurement with standardised electronic document formats.
Public Key Infrastructure	A public key infrastructure is a system for the creation, storage and distribution of digital certificates which are used to verify that a particular public key belongs to a certain entity.
Standard Business Reporting (SBR)	A business unit of the Australian Taxation Office
Transmission integrity	Means that data cannot be modified in an unauthorised or undetected manner when being transmitted.
Universal Business Language (UBL)	Universal Business Language is a library of standard electronic XML business documents such as purchase orders and invoices developed by an OASIS Technical Committee with participation from a variety of industry data standards organisations.

10. Appendix

10.1 Design principles for eInvoicing

This document describes the Council endorsed design principles that informed the development of this eInvoicing Interoperability framework (eIFW).

Principle 1: Extensibility	Select standards that will not inhibit the future extension of the eIFW to other elements of the procure-to-pay process.
Rationale	• The goal of implementing the eIFW is to help bridge 'islands of trade' in order to reduce the cost of doing business • Savings to the economy will accrue due to increased automation and the reduction of error prone paper based processing of invoices. • The success of the interoperability framework is measured by the rates of straight through processing and conformance with the standards, as well as the value of savings and improved experience of Australian businesses, particularly the SME market.
Implications	• The design of the interoperability framework would need to be balanced between focussing on immediate implementation of process automation in the accounts payable stages and strategically strategic alignment to the end to end procure to pay process lifecycle, post the procurement award stages. • The standards should be designed to facilitate automation of common processes between buyers and sellers.
Principle 2: Nonproprietary	Choose standards that are open, royalty free and vendor agnostic.
Rationale	• The standards should be able to be freely adopted, implemented and extended. • Avoid lock in to a particular proprietary solution and thereby minimise the cost of adoption for parties involved. • Avoid exclusion of a particular market segment.
Implications	• In deciding the use of open standards, existing levels of take-up across all domains and availability of implementations of these standards will be considered to prevent use of poorly supported open standards. • The framework will need to be attractive to the business community and all of government will adopt the interoperability framework. • Businesses will have free choice of the technology and providers for software and services.
Principle 3: Existing standards alignment	Align with relevant and established international standards. Adopt Australian standards and practices only where international standards are not applicable. Do not modify any standard, international or Australian, other than as a last resort.
Rationale	• There are various parts to a likely framework that have been successfully proven locally and internationally. Reuse of these proven standards will improve the likelihood of adoption and reduce risk. • There are most likely proven integration approaches between pre-existing standards. • Irrespective of whether the initial scope includes payments or not some businesses may choose to implement the full procure-to-pay lifecycle which includes payments. Alignment with the new payments platform (NPP) will reduce the burden on the software industry.

Implications	• Leveraging the standards that other countries have started to adopt for eProcurement or eInvoicing will mean that amount of effort that went into assessing suitability would also be leveraged – applicability to the Australian context will need to be assessed against the context of global trading environments not being too dissimilar. • Many software vendors and businesses have already implemented a range of international and local standards and hence there may be some changes to some of the market but not all of the market – there would be reduced effort, risks and costs. • Interoperability between the selected standards and those currently in use by Australian businesses will need to be considered. • Standards which are not well established in the user community may be chosen if an alternative approach provides greater value and better ongoing sustainability.
Principle 4: Platform independence	Enable businesses to business(B2B) connectivity irrespective of platform or solution to exchange electronic business transactions
Rationale	• Interconnection with disparate electronic systems will bridge the 'islands of trade'. • Business should not need to replace existing solutions, but merely create connections with trading partners.
Implications	• Many software vendors and businesses have already implemented a range of international and local standards and hence there will be some changes to some of the market but not all of the market – there would be reduced effort, risks and costs. An understanding of commonly accepted standards will be required. • Interoperability between the selected standards and those currently in use by Australian businesses will need to be considered.
Principle 5: Unobtrusive	The chosen standards should not impose a particular design of internal solutions for stakeholders
Rationale	• The standards should not lock stakeholders into a particular proprietary solution and hence should minimise the cost of adoption for parties involved. • The use of standards and best practices should maximise the ability to leverage off the-shelf solutions for businesses, software developers and Government.
Implications	• The standards and any solution aspects will need to facilitate open integration and should not dictate internal implementation methods to stakeholders. • The 'how' or implementation of the standards should be in the hands of the stakeholders, including software developers.
Principle 6: Semantic model	The semantic model of the eIFW will inform future revisions of the SBR dictionary, exploiting the ability to share the model and gain efficiencies of standardised data models
Rationale	• Consistent reuse of standardised definitions and meanings provide greater opportunities to optimise business processes and ability to integrate information with further cost reduction. • The use of standards and best practices will maximise the ability to leverage off the-shelf solutions for businesses, software developers and Government.
Implications	• The semantic model will need to be defined/elaborated in a consultative manner – preferably reusing an existing global standard. • The data definitions will be incorporated into the SBR definitional taxonomy. • The definitions will require ongoing maintenance.

Principle 7: Return on investment	Design the eIFW in a way that optimises costs and benefits to software developers and solution providers.
Rationale	• Within the scope of achieving the eInvoicing objectives, the eIFW should keep to the minimum the cost of changes to Software Developers' products and transition costs to industry and employers. • Align with natural business terms and common processes where possible.
Implications	• Solutions should be commercially viable to ensure the long-term sustainability of the standard and supporting platforms & products. • Software developers should not be required to implement changes to their software unless there is a clear statement articulating the need for those changes. • Transition costs for industry should not be created unnecessarily. • Cost should be reduced where milestones are published to provide certainty and stakeholders are involved in the communication, collaboration and co-design process.