A STANDARD AND SECURE E-COMMERCE TRANSACTION FRAMEWORK USING EBXML

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APPROVAL

This Project Titled **"A Standard And Secure E-Commerce Transaction Framework Using EbXML",** Submitted by Badhan Karmokar to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as allright for the Partial Fulfillment of the Requirements for the Degree of B.Sc. in Computer Science and Engineering (BSc) and Approved as to Its Style and Contents. The Presentation has been held on 6 APRIL 2019

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I hereby declare that, this paper has been done by me under the supervision of **Ms. Amatul Bushra Akhi, Lecturer, Department of CSE** Daffodil International University. I also declare that neither this paper nor any part of this paper has been submitted elsewhere for award of any degree or diploma.

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ABSTRACT

Technology is growing very quickly. In this situation, Business technology is the essential part for Modern World. For this technology, our lifestyle is being easier by modern technology. But, technology is not good for our life in every time. In the modern world, security is the main problem for anything. EbXML (Electronic Business Using Extensible Markup Language) is the main part for any other types business technology. It is very most popular for business technology in the global world. This popularetion is being growing day by day. Transaction is the most essential part for business partners. There are many kinds of security is being discovering day to day. But, XML security is the most popular in the whole world. XML security is the main part for business transactions system technologies. XML security is describing by digital signature, encryption, access control etc. But a good framework is the most essential part for XML security technology. Generally, a company give their information to the another company and every company can access their security control. If XML security is not strong then any company can access control by others company in anytime. It is very harmful for business companies. So, XML security is the good effective part for EbXML. A good business model or framework is fundamental part for XML business security. In the modern technology, security is the more powerful by good business technology and modern frame working.

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LIST OF ABBREVIATIONS

WORD	ABBREVIATIONS
EBXML	Electronic Business Using Extensible Markup Language
XML	Extensible Markup Language
CPP	Collaboration Protocol Profile
CPA	Collaboration Protocol Agreement
OASIS	Observations of the American Society for Information Science
UN/CEFACT	UN/CEFACT stands for United Nation Centre for Trade Facilitation and Electronic Business
XKMS	XML Key Management Specification
SAML	Security Assertion Markup Language
XACML	XML Access Control Markup Language
SSL	Security Socket Layer
S/MINE	Secure Multi-Purpose Internet Mail Extensions
SOAP	Simple Object Access Protocol

CHAPTER 1

INTRODUCTION

1.1 Introduction

In the last some years, XML is the first choice for data exchange format in any business transactions for EbXML. EbXML (Electronic Business Using Extensible Markup Language) is the main part for any other types business technology [1]. It is very most popular for business technology in the global world. XML security is the main key points for Business Transactions Technologies. XML security is describing by digital signature, encryption, access control etc. But a good framework is the most essential part for XML security technology [2]. A good security model need for ensure commit between business entities. XML security is the main key point for business transactions systems. For this security, some of the different types of key secure for business technology is been described as followings [3]. The ebXML infrastructure components may be used independently. Generally, it is very important for business technique. We explanation a use case for use high-level transaction for two companies or business partners. This use case is very good effective for business or trading partners.

Main components for ebXML communication between two companies. There are many standard "parts" in this system. Generally, we use the main system for large ebXML elements. As an example, we think core process is the main process for any others big business process. It is very helpful for any big business transactions. ebXML is the very good effects for business transactions. We think large elements may be Good effects for many industries and businesses but ebXML is the main elements for business transactions security.

- Fraud access for any kind of extra automatic system may be the huge loss of business.
- May be riskless transaction is very bad effect for business privacy.
- May be error for trading information affected by application transaction problems.
- We can secure our business data by good transaction managements systems.

Technology is growing very quickly. In this situation, Business technology is the essential part for Modern World. For this technology, our lifestyle is being easier by modern technology. But, technology is not good for our life in every time. In the modern world, security is the main problem for anything. XML security is very most popular for business technology in the global world. This popularetion is being growing day by day. Transaction is the most essential part for business partners. There are many kinds of security is being discovering day to day. But, XML security is the most popular in the whole world. XML security is the main part for business transactions system technologies.

XML security is describing by digital signature, encryption, access control etc. But a good framework is the most essential part for XML security technology. Generally, a company give their information to the another company and every company can access their security control. If XML security is not strong then any company can access control by others company in anytime. It is very harmful for business companies. So, XML security is the good effective part for EbXML. A good business model or framework is fundamental part for XML business security. In the modern technology, security is the more powerful by good business technology and modern frame working.

1.2 Motivation

The XML security is the main problem in the business transactions. In the modern world XML is very popular for EbXML [4]. Generally, XML security is being updating day by day. Specially, XML security framework is working for create a good business process model.

1.3 Overview

We can use security technologies for risky EbXML transactions problems. For any transaction of security users can give user-id or password and any technological informations [5]. There are many security problems in EbXML for business transactions. We can use different types of security layer for removes internal and technological problems. It is very useful for business transactions. We can use to solve error detections problem by anti-virus software and many others tools. XML security technology emerging developing and updating day by day.

Our proposed model represents a system that will secure the business transaction using the XML secure techology [6]. Checking the messages between the modules and using the XML secure techology our testing software will be developed and make the ebXML more secure and standard. We use XML Security technologies for implementations ebXML security transactions [7]. There are many standards XML security in our country and in the world for ebXML transaction systems. We propose XML security model.

We hope this is the best model in the modern world for ebXML transaction security. We propose, SAML, is the most important security in business transactions and it is very popular in the smart world because it is using digital sign feature of the XML security standards [8]. The ebXML infrastructure components may be used independently. Generally, it is very important for business technique. We explanation a use case for use high-level transaction for two companies or business partners. This use case is very good effective for business or trading partners.

Main components for ebXML communication between two companies. There are many standard "parts" in this system. Generally, we use the main system for large ebXML elements. As an example, we think core process is the main process for any others big business process. It is very helpful for any big business transactions. ebXML is the very good effects for business transactions. We think large elements may be Good effects for many industries and businesses but ebXML is the main elements for business transactions security.

It is very most popular for business technology in the global world. This popularetion is being growing day by day. Transaction is the most essential part for business partners. There are many kinds of security is being discovering day to day. But, XML security is the most popular in the whole world. XML security is the main part for business transactions system technologies. XML security is describing by digital signature, encryption, access control etc. But a good framework is the most essential part for XML security technology. Generally, a company give their information to the another company and every company can access their security control. If XML security is not strong then any company can access control by others company in anytime. It is very harmful for business companies. So, XML security is the good effective part for EbXML. A good business model or framework is fundamental part for XML business security. In the modern technology, security is the more powerful by good business technology and modern frame working.

XML security technologies is the most essential part for business transactions. we designed a business transaction model which is very efficient to safely exchange business transactions by utilizing XML security technologies. There are many security or technologies in the modern world but we think XML security is the best security part for business security for modern technologies We have shown two companies business connections and transactions.

1.4 Expected Outcome

Some of the expected key list for outcome is given below.

- Provide a good security for EbXML.
- Provide a good framework for business transactions.
- Locking for Strong and safe security models.
- Provide for is using digital sign feature of the XML security standards.
- To propose SAML is the most important security in business transactions.
- To use XML Security technologies for implementations ebXML security transactions.

There are many security or technologies in the modern world but we think XML security is the best security part for business security for modern technologies We have shown two companies business connections and transactions. The registration is the main database of items that support doing business communication for each other companies. Any other applications connect with the registry service interfaces and different types of information is applying in the registration Technology.

In this part XML is the main security for any other business transaction model. It is help for business trading partner agreements. Security is very most popular for business technology in the global world. This popularetion is being growing day by day. Transaction is the most essential part for business partners. There are many kinds of security is being discovering day to day. But, XML security is the most popular in the whole world. XML security is the main part for business transactions system technologies. XML security is describing by digital signature, encryption, access control etc. But a good framework is the most essential part for XML security technology. Generally, a company give their information to the another company and every company can access their security control. If XML security is not strong then any company can access control by others company in anytime. It is very harmful for business companies. So, XML security is the

good effective part for EbXML. A good business model or framework is fundamental part for XML business security. In the modern technology, security is the more powerful by good business technology and modern frame working. XML security technologies is the most essential part for business transactions. we designed a business transaction model which is very efficient to safely exchange business transactions by utilizing XML security technologies. There are many security or technologies in the modern world but we think XML security is the best security part for business security for modern technologies We have shown two companies business connections and transactions.

CHAPTER 2

BACKGROUND

2.1 Introduction

EbXML specially known as XML, security transactions for e-business. Generally, the ebXML architecture is the part of concepts and theoretical implemented in the existing ebXML standard work in the business model. In the modern world ebXML transaction process is not efficient for transaction security. We create a single set of business model that is a very good effective model for ebXML and document structures to facilitate global trade. This is very important part for a business transaction.

Generally, information communication is the main part of the business transaction systems. For kinds of message there will be many layers. Actually outside layer is the main part for business transaction model and another layer is the basic part for ebXML. Mainly we must be used SOAP (Simple Object Access Protocol) for main communication layer. We think it is very efficient process. XML security technologies is the most essential part for business transactions. we designed a business transaction model which is very efficient to safely exchange business transactions by utilizing XML security technologies. There are many security or technologies in the modern world but we think XML security is the best security part for business security for modern technologies We have shown two companies business connections and transactions.

2.2 Privacy and security

Security is the most essential part for business technology. In the modern technology we can use business technology is very good effectively. XML security is the most popular in the business companies. Specially creating a good transactions model is very good effect for our global world business technology. There are many effective problems in the EbXML. We can use different types of security layer for safe and strong security model for business transactions technologies. XML security technologies is the most essential part for business transactions. we designed a business transaction model which is very efficient to safely exchange business transactions by utilizing

XML security technologies. There are many security or technologies in the modern world but we think XML security is the best security part for business security for modern technologies We have shown two companies business connections and transactions. The registration is the main database of items that support doing business communication for each other companies. Any other applications connect with the registry service interfaces and different types of information is applying in the registration Technology. In this part XML is the main security for any other business transaction model. It is help for business trading partner agreements.

XML Signature Basic Structure:

```
<Signature>
  <SignedInfo>
    (CanonicalizationMethod)?
    (SignatureMethod)
    (Reference)+
  </SignedInfo>
  (SignatureValue)
  (KeyInfo)?
  (Object)*
</Signature>
```

Figure 2.2.1: Structure of XML Digital Signature

In this main security Any other applications connect with the registry service interfaces and different types of information is applying in the registration Technology. In this part XML is the main security for any other business transaction model. It is help for business trading partner agreements.

2.3 Research Summary

There are many paper in ebXML. We read ebXML related paper thoroughly. We saw that ebXML is very important for many kinds of business. In ebXML XML is the security part for business transactions. There are many people who updating day by day in xml security. Many others people using some useful methods for strong XML security. Some of the people described in the propose methods in their submission paper. Many people use XML technologies and they prove that for this useful technologies flexibility suitable for ebXML. There are many security or technologies in the modern world but we think XML security is the best security part for business security for modern technologies We have shown two companies business connections and transactions.

The registration is the main database of items that support doing business communication for each other companies. Any other applications connect with the registry service interfaces and different types of information is applying in the registration Technology. In this part XML is the main security for any other business transaction model. It is help for business trading partner agreements. Specially creating a good transactions model is very good effect for our global world business technology. There are many effective problems in the EbXML. We can use different types of security layer for safe and strong security model for business transactions technologies. XML security technologies is the most essential part for business transactions. we designed a business transaction model which is very efficient to safely exchange business transactions

Many people use some kinds of XML digital signatures, SAML, XACML, XKMS, Single sign-on, CPP, CPA etc.

Lastly we tell that XML security is the most important part in some kinds of business security.

2.4 Challenges

> ➢ Ensure proper xml security for business transactions.
>
> ➢ Challenges for good business transactions model.
>
> ➢ Dependable on internet access.
>
> ➢ Fully Dependable on any other business companies.
>
> ➢ Internet connection will be an efficient of the service for being XML security system.

ebXML is very important part for business security technology. Mainly xml is the security part for ebXML. Generally, we use xml security technology such as XML digital signature, Single sign-on, CPP, CPA etc. Mainly we use jQuery ajax method, PHP for connections, HTML and CSS for design. We think digital signature is very good security for ebXML.

In day by day XML security is very most popular for business technology in the global world. This popularetion is being growing day by day. Transaction is the most essential part for business partners. There are many kinds of security is being discovering day to day. But, XML security is the most popular in the whole world. XML security is the main part for business transactions system technologies. XML security is describing by digital signature, encryption, access control etc. But a good framework is the most essential part for XML security technology. Generally, a company give their information to the another company and every company can access their security control. If XML security is not strong then any company can access control by others company in anytime. It is very harmful for business companies. So, XML security is the good effective part for EbXML. A good business model or framework is fundamental part for XML business security. In the modern technology, security is the more powerful by good business technology and modern frame working.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

EbXML specially known as XML, security transactions for electronic business. Generally, the EbXML architecture is the part of concepts and theoretical implemented in the existing EbXML standard work in the business model. In the modern world EbXML transactions process is not sufficient for transaction security. We create a single set of business model that is a very good effective model for EbXML and document structures to facilitate global trade.

3.2 Research Subject

We know that ebXML is very important part for business security technology. Mainly xml is the security part for ebXML. Generally, we use xml security technology such as XML digital signature, Single sign-on, CPP, CPA etc. Mainly we use jQuery ajax method, PHP for connections, HTML and CSS for design. We think digital signature is very good security for ebXML.

3.3 Implementation Requirements

3.3.1 Information Process

This is very important part for a business transaction. Generally, information communication is the main part of the business transaction systems. For kinds of message there will be many layers. Actually outside layer is the main part for business transaction model and another layer is the basic part for ebXML. Mainly we must be used SOAP (Simple Object Access Protocol) for main communication layer. We think it is very efficient process. Generally, it provides some specifications. They are mainly CPP (Collaboration Protocol Profile) and CPA (Collaboration Protocol Agreement). In this part mainly two or many others business partners share their personal information. This information is very important for business partner. We store the business partner information in this part and we use XML for high business transaction security. We can use CPP

and CPA as a software application. This is the safe and strong security in this whole system. Generally, it creates very good relationship between BPSS and CPP or CPA. In this part mainly two or many others business partners share their personal information. This information is very important for business partner. We store the business partner information in this part and we use XML for high business transaction security

Now we create business transaction process model between two companies is given below.
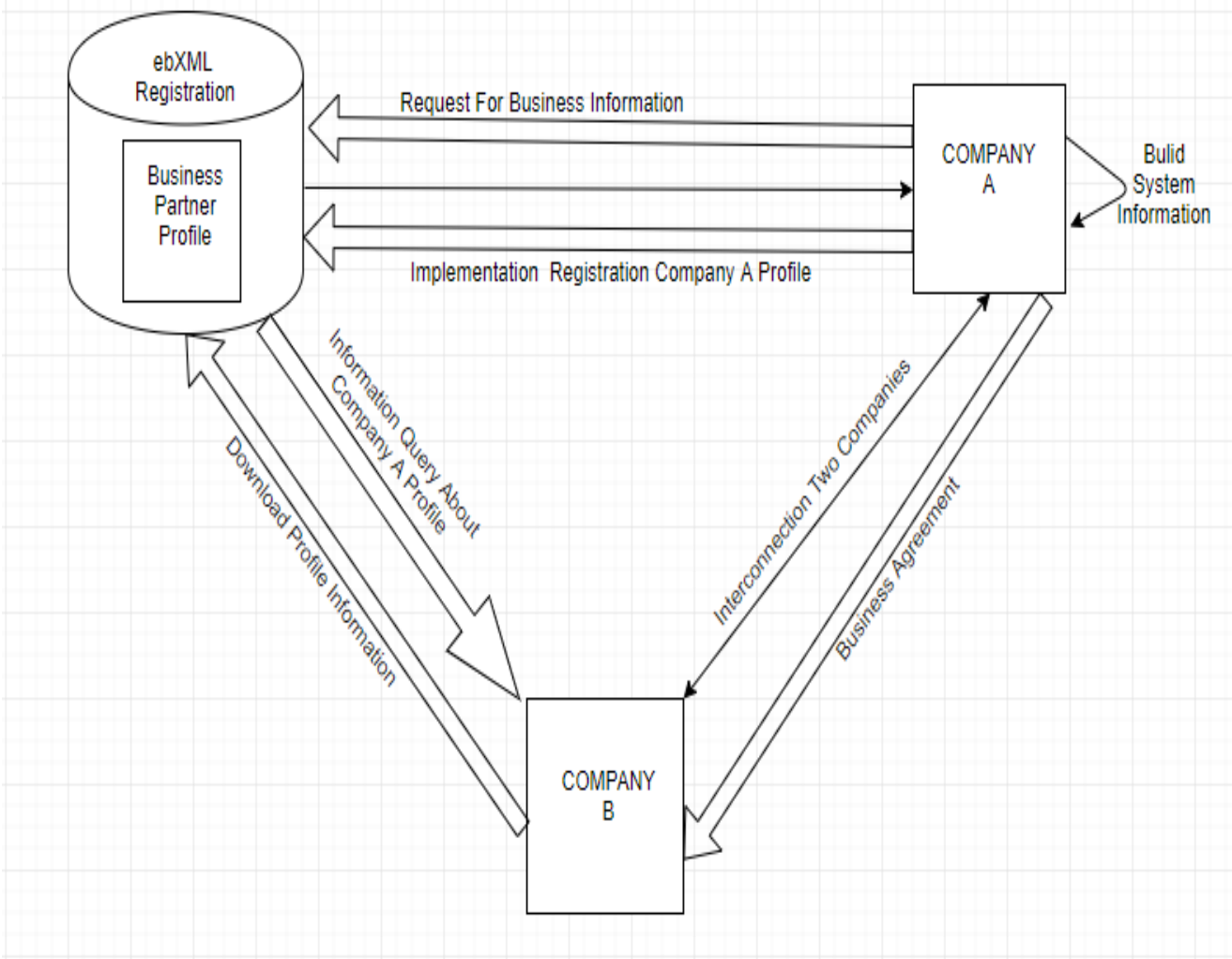

Figure 3.3.1.1: Overview of EbXML communication between two companies

There are two companies in this part. Such that Company A and Company B. Firstly, Company A and Company B has been done by their registration in the system. They give their business informations and profile in the registration part. This information is save in the system database. Company A and Company B sign-in or log-in to the system anytime and see their business information. Company A build-in their system informations. Company A is request to the EbXML registration system for business information and also request for implementation registration company A profile. They download their profile information in anytime. Company A and Company B they are also interconnected between two companies. They also build-up their business agreement and good relationship. In this part any other third party company do not know this two companies' business information. This is the safe and strong security in this whole system. Generally, it creates very good relationship between BPSS and CPP or CPA. In this part mainly two or many others business partners share their personal information. This information is very important for business partner. We store the business partner information in this part and we use XML for high business transaction security

3.3.2 Registration

The registration is the main database of items that support doing business communication for each other companies. Any other applications connect with the registry service interfaces and different types of information is applying in the registration Technology. In this part XML is the main security for any other business transaction model. It is help for business trading partner agreements.

3.3.3 Business Partner Information

Generally, it provides some specifications. They are mainly CPP (Collaboration Protocol Profile) and CPA (Collaboration Protocol Agreement). In this part mainly two or many others business partners share their personal information. This information is very important for business partner. We store the business partner information in this part and we use XML for high business transaction security. We can use CPP and CPA as a software application.

CHAPTER 4

EXPERIMENTAL RESULTS AND DISCUSSION

4.1 Introduction

The ebXML infrastructure components may be used independently. Generally, it is very important for business technique. We explanation a use case for use high-level transaction for two companies or business partners. This use case is very good effective for business or trading partners.

Main components for ebXML communication between two companies. There are many standard "parts" in this system. Generally, we use the main system for large ebXML elements. As an example, we think core process is the main process for any others big business process. It is very helpful for any big business transactions. ebXML is the very good effects for business transactions. We think large elements may be Good effects for many industries and businesses but ebXML is the main elements for business transactions security.

4.1.1 Business Process Specification Schema (BPSS)

In this part we provide how an organization conducts its business for communication of business partners. We created a modern business model in this part. Generally, it creates very good relationship between BPSS and CPP or CPA. In this part mainly two or many others business partners share their personal information. This information is very important for business partner. We store the business partner information in this part and we use XML for high business transaction security. We can use CPP and CPA as a software application.

There are two companies in this part. Such that Company A and Company B. Firstly, Company A and Company B has been done by their registration in the system. They give their business informations and profile in the registration part. This information is save in the system database. Company A and Company B sign-in or log-in to the system anytime and see their business information. Company A build-in their system informations. Company A is request to the EbXML registration system for business information and also request for implementation registration company A profile. They download their profile information in anytime. Company A and

Company B they are also interconnected between two companies. They also build-up their business agreement and good relationship. In this part any other third party company do not know this two companies' business information. This is the safe and strong security in this whole system.

4.2 Experimental Results

Firstly, we discuss "What Is EbXML and XML Security" in our paper. We mainly describe XML security for business transactions. We use PHP connection for two business partner's information and for strong security use digital signature in the ebXML. Now we show our expected outcome and output is showed that in this part. Generally, it creates very good relationship between BPSS and CPP or CPA. In this part mainly two or many others business partners share their personal information. This information is very important for business partner. We store the business partner information in this part and we use XML for high business transaction security. We can use CPP and CPA as a software application.

There are two companies in this part. Such that Company A and Company B. Firstly, Company A and Company B has been done by their registration in the system. They give their business informations and profile in the registration part. This information is save in the system database. Company A and Company B sign-in or log-in to the system anytime and see their business information. Company A build-in their system informations. Company A is request to the EbXML registration system for business information and also request for implementation registration company A profile. They download their profile information in anytime. Company A and Company B they are also interconnected between two companies. They also build-up their business agreement and good relationship. In this part any other third party company do not know this two companies' business information. This is the safe and strong security in this whole system.

Now we show in our output is given below.

Company A-CEO Information output:

Company A "CEO":
- FirstName: Tanmay
- LastName: Patil
- ContactNo: 1234567890
- CEOEmail: tanmaypatil@xyz.com
- Address:
City: Bangalore
State: Karnataka
Zip: 560212

Figure 4.2.1: Company A-CEO Information

Company A Contact Information output:

- Companycontact-info:
Company: Quantum Computers
- Companyphone: (011) 123-4567
- CompanyEmail: Quantum@xyz.com
- CompanyFax: Quantum@6278964

Figure 4.2.2: Company A Contact Information

Company B-CEO Information output:

Company B "CEO":
- FirstName: Chinmoy
- LastName: Patil
- ContactNo: 1234567891
- CEOEmail: Chinmoypatil@xyz.com
- Address:
City: Kolkata
State: Kolkata
Zip: 560212

Figure 4.2.3: Company B-CEO Information

Company B Contact Information output:

- Companycontact-info:
Company: Apple Computers
- Companyphone: (011) 123-4844
- CompanyEmail: Apple@xyz.com
- CompanyFax: Apple@6278988

Figure 4.2.4: Company B Contact Information

Digital Signature output 1:

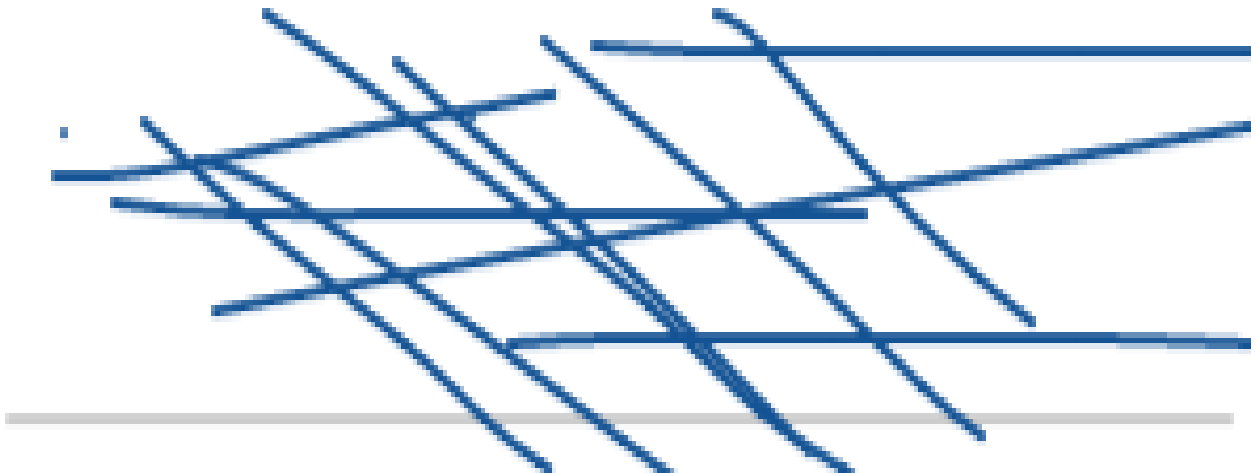Figure 4.2.5: Digital Signature 1

Digital Signature output 2:

Figure 4.2.6: Digital Signature 2

Digital Signature output 3:

Figure 4.2.7: Digital Signature 3

Digital Signature output 4:

Figure 4.2.8: Digital Signature 4

Digital Signature output 5:

Figure 4.2.9: Digital Signature 5

Digital Signature output 6:

Figure 4.2.10: Digital Signature 6

CHAPTER 5

CONCLUSION AND IMLICATION FOR FUTURE

5.1 Conclusions

At last we can realize that XML security technologies is the most essential part for business transactions. we designed a business transaction model which is very efficient to safely exchange business transactions by utilizing XML security technologies. There are many security or technologies in the modern world but we think XML security is the best security part for business security for modern technologies We have shown two companies business connections and transactions.

5.2 Implication of Future

There are many securities in the Business transactions model. We know that security is the key point for business technology. But XML security is the very popular and essential part for EbXML. We will be create more implement XML security and good or strong business model in future.

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