# XML, BENEFITS AND ADVANTAGES

**1.1 XML:**

As the Internet emerged and rapidly became a viable place to conduct business, communicate, and entertain, it became apparent that the need to exchange data in an open manner was still unmet. SGML provided a solution for exchanging data in a structured, standardized manner, but it was inappropriate for direct application on the Internet.HTML was a pure-Internet approach for displaying and presenting information in a plat- form-independent manner, but it was wholly inadequate for representing data structures. EDI had proven its merit in conducting electronic business transactions but was ill-suitedto being exchanged on the Internet and lacked the sophisticated features of either HTMLor SGML. It was obvious something more was needed.

In this environment, an initiative led Jon Bosak and supported by a group of SGML and industry notables, including Tim Bray, C. M. Sperberg-McQueen, Jean Paoli, and James Clark, sought to take some of the best features of SGML and "put them on the Web."Their goal was to take the standard, generalized manner for marking up data and extendit with metadata while stripping out all the complexities and optional features that madeSGML too difficult to implement. On top of that, the new language would be designedinherently for the Internet and have the support of the Internet's top standards-setting body, the World Wide Web Consortium (W3C). Originally called Web SGML, this new language was later named the Extensible Markup Language (XML) .

**1.2 Benefits of XML**

The very nature of XML is that it is a structured document format that represents not only the information to be exchanged but also the metadata encapsulating its meaning.

**A) XML Separates Data from HTML**

If you need to display dynamic data in your HTML document, it will take a lot of work to edit the HTML each time the data changes. With XML, data can be stored in separate XML files. This way you can concentrate on using HTML for layout and display, and be sure that changes in the underlying data will not require any changes to the HTML.

With a few lines of JavaScript code, you can read an external XML file and update the data content of your web page.

**B) XML Simplifies Data Sharing**

In the real world, computer systems and databases contain data in incompatible formats. XML data is stored in plain text format. This provides a software- and hardware-independent way of storing data. This makes it much easier to create data that can be shared by different applications.

## C) XML Simplifies Data Transport

One of the most time-consuming challenges for developers is to exchange data between incompatible systems over the Internet. Exchanging data as XML greatly reduces this complexity, since the data can be read by different incompatible applications.

## D) XML Simplifies Platform Changes

Upgrading to new systems (hardware or software platforms), is always time consuming. Large amounts of data must be converted and incompatible data is often lost. XML data is stored in text format. This makes it easier to expand or upgrade to new operating systems, new applications, or new browsers, without losing data.

## E) XML Makes Your Data More Available

Different applications can access your data, not only in HTML pages, but also from XML data sources.With XML, your data can be available to all kinds of "reading machines" (Handheld computers, voice machines, news feeds, etc), and make it more available for blind people, or people with other disabilities.

## F) XML is Used to Create New Internet Languages

A lot of new Internet languages are created with XML.

Here are some examples:

- XHTML
- WSDL for describing available web services
- WAP and WML as markup languages for handheld devices
- RSS languages for news feeds
- RDF and OWL for describing resources and ontology
- SMIL for describing multimedia for the web

## 1.3) Advantages of XML over HTML

HTML was created to meet a very different need than XML. It is clear that XML will not now, or perhaps ever, completely replace HTML. Except of course with regard to the XML-enabled version of HTML, known as XHTML. HTML was designed as a language to present hyperlinked, formatted information in a Web browser. It has no capability to represent metadata, provide validation, support extensibility by users, or support even the basic needs of e-business. Fundamentally, the difference is that HTML is intended for consumption by humans, whereas XML is meant for both machine and human consumption.

## 1.4)    AdvantagesofXMLoverEDI

EDIadoptionhasbeenfairlywidespread,eventhoughmainlyamonglarger-sizedbusinesses.ThecostofEDIimplementationandongoingmaintenancecanbemeasuredin thebillionsinaggregate.MillionsofdollarsintransactionsoccuronadailybasisusingEDI-mediatedmessages.Itwouldbeverydifficult,ifnotimpossible,touprootallthis activityandreplaceitwithexclusivelyXML-basedtransactions.Thesebusinesseshave somuchmoneyandtimeinvestedinANSIX12/EDIthattheywillbefairlyslowto adoptanewstandard,whichwouldnecessitatenewprocessingtechnology,mapping software,andback-endintegration.Forthem,itwouldseemthattheywouldneedto discardtheirexisting,workingtechnologyinfavourofanunprovenandstillimmature technology.

1) XMLisagoodreplacementforEDIbecauseitusestheInternetforthe dataexchange.
2) ComparedtoEDIandotherelectroniccommerceanddata-interchangestandards,XML offersseriouscostsavingsandefficiencyenhancementsthatmakeimplementationof XMLgoodforthebottomline

3) XML'sbuilt-invaliditychecking,low-costparsersandprocessingtools,Extensible Stylesheet Language(XSL)basedmapping,anduseoftheInternetkeepdownmuchof thee-commercechaincost.
4) TheuseoftheInternetitselfgreatlylowersthebarrierforsmallandmedium-sizedcompaniesthathavefoundEDItoocostlytoimplement
5) TheideathatXMLrepresentsanew,freshapproachto solvingmanylingeringproblemsinaflexiblemannerappealstomanyinseniormanagement.
6) XML syntax allows for international characters that follow the Unicode standard to be included as content in any XML element

**1.5) AdvantagesofXMLoverDatabases**

Relational and object-oriented databases and formats can represent data as well as meta-data, but for the most part, their formats are not text based. Most databases use a proprietary binary format to represent their information. There are other text-based formats that include metadata regarding information and are structured in a hierarchical representation, but they have not caught on in popularity nearly to the extent that XML or even SGML has. Oneoftheprimaryissuesfacedbyalternatefileformatanddatabaselanguagesisthat processingtoolsarecustom,proprietary,orexpensive.Whentoolsarewidespread,they areusuallyspecifictotheparticularfileformatinquestion.OneofXML'sgreatest strengthsisthatprocessingtoolshavebecomerelativelywidespreadandinexpensive,if notfree.