
The AdsML Quick Start Guide



AdsML[®] Framework for E- Commerce Business Standards for Advertising

15 April 2010

The AdsML Quick Start Guide describes how to approach and manage the implementation of the AdsML Framework. It is intended to give the reader a high-level understanding of how to plan, manage and execute the business and technical dimensions of an AdsML project, including where else to look in the AdsML Framework to find the resources that you need.

The guide is aimed primarily at business, technical and project managers who are planning an AdsML-based e-commerce project.

TABLE OF CONTENTS

ADSML® FRAMEWORK FOR E-COMMERCE BUSINESS STANDARDS FOR ADVERTISING.....1

1 INTRODUCTION.....1

2 PROJECT CHECKLIST 3

2.1 LEARN YOUR WAY AROUND THE ADSML FRAMEWORK4

2.2 FORM A PROJECT INVOLVING KEY TRADING PARTNERS4

2.3 DECIDE WHICH PARTS OF YOUR ADVERTISING WORKFLOW TO AUTOMATE 5

2.4 AGREE WITH YOUR TRADING PARTNERS THE HIGH LEVEL VISION FOR THE PROJECT6

2.5 DEVELOP THE TRADING PARTNER AGREEMENT6

2.6 IDENTIFY SUITABLE SOFTWARE AND USE IT TO HELP DEFINE THE PROJECT 7

2.7 IMPLEMENT AND TEST THE NEW SYSTEMS AND WORKFLOWS7

3 THE ADSML FRAMEWORK 9

3.1 THE ADVERTISING LIFECYCLE9

3.2 AVAILABLE ADSML BUSINESS MESSAGE SPECIFICATIONS..... 11

3.3 OTHER ADSML SPECIFICATIONS.....13

4 FORMING AN ADSML E-COMMERCE PROJECT14

4.1 KEY ASPECTS OF AN ADSML PROJECT14

4.2 GENERAL PROJECT GUIDELINES15

5 SCOPING AN ADSML PROJECT16

5.1 CONFIGURING THE ADSML FRAMEWORK.....16

5.2 EXAMPLE.....17

6 TPA – THE TRADING PARTNER AGREEMENT19

6.1 THE ROLE OF A TPA 19

6.2 CONTENTS OF A TPA20

6.3 DEVELOPING AND MAINTAINING TPAS.....21

7 SOFTWARE FOR ADSML.....23

7.1 ADSML COMPLIANT SOFTWARE APPLICATIONS 23

7.2 ADSML IS XML, SO GENERAL XML TOOLS CAN BE RELEVANT24

7.3 ADSML AND SOA.....24

1 Introduction

This guide is aimed primarily at business, technical and project managers who are planning an AdsML-based e-commerce project. It is not aimed at software vendors or engineers engaged in writing AdsML-compliant software. Of course, vendors and developers will play a key role in any AdsML project, but for this guide we start at a higher level by looking at the project as a whole.

We begin with an “at a glance” overview of the typical components of an AdsML project, and then drill into each of those components in more detail.

What is AdsML?

The *AdsML Framework of E-commerce Business Standards* is not software. It is a set of technical specifications and workflow guidelines, like a blueprint, that once implemented in software systems will enable those systems to work together to provide e-commerce capabilities to the advertising workflow, such as order taking, ad copy delivery or invoicing.

An AdsML project should be thought of primarily as a *business* rather than a *technical* undertaking, since its goal is to improve business processes and workflows. The AdsML business process model is organized according to major phases of the advertising life cycle, from early planning to order and invoicing. The AdsML specifications help trading partners to understand and identify at which points in the advertising lifecycle they are able to effectively conduct business with one another by electronic, system-to-system communications.

”AdsML is not software”

Running an AdsML Project

To ensure the involvement of key trading partners and to coordinate an AdsML project, standard project management principles should be applied and some form of project office established.

The sponsors of a project should be businesspeople rather than engineers, and the project must meet their business requirements and deliver ROI to the parent organizations.

An AdsML project often involves coordinating business and technical changes in multiple organizations. But the resulting operational efficiencies and cost savings should be well worth the effort.

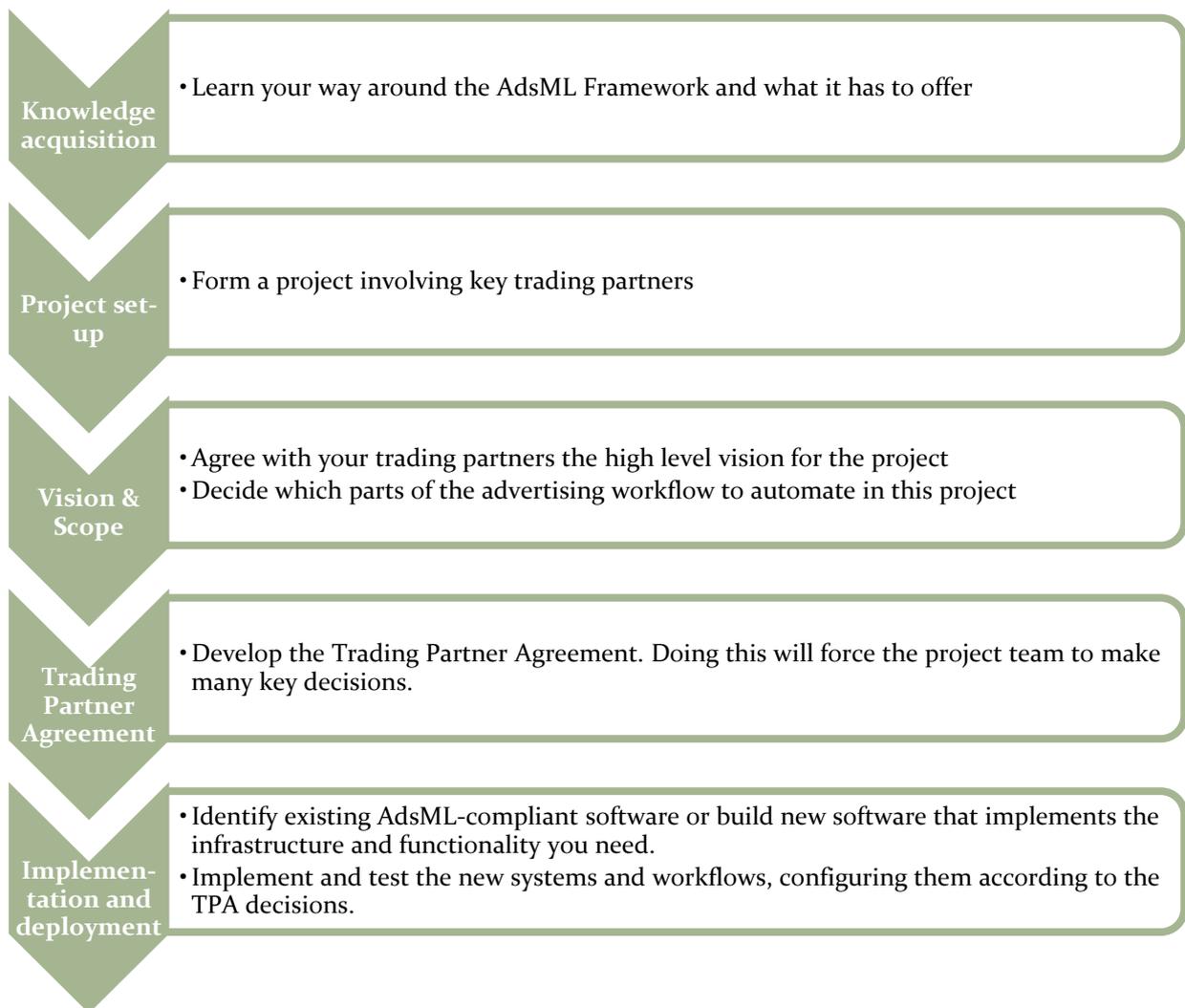
This guide offers what the AdsML Technical WG considers to be best practice guidance for running an AdsML project. The guide advises on the following aspects,

- Project checklist - a checklist of how to approach a project
- The AdsML Framework - guidance for how to consult the AdsML documentation
- Forming an AdsML e-commerce project guidance for how to manage an AdsML project

- Scoping an AdsML project - guidance for how to tailor AdsML to the scope of your project
- Trading Partner Agreement (TPA) - guidance on how to specify the business agreements that must be in place between the partners in an AdsML e-commerce project
- Software for AdsML - guidance for choosing the tools and software used for technical implementation.

2 Project checklist

Every AdsML project is different, but when viewed from a distance they share many core components. Here are the steps involved in setting up a typical business-to-business AdsML project:



The following sections of this chapter explore each of these steps in more detail. Later chapters in this document drill into some of the core concepts.

2.1 Learn your way around the AdsML Framework

You do not need to read everything in the Framework in order to use it. The material you need to master depends on the nature of your project (especially what workflows you plan to automate) and your specific role (business lead, project manager, software engineer, etc).

The first thing you need to do is develop a high level understanding of what is in the Framework. Start with the ReadMe document (*ReadMeFirst.html*) which can be found in the root directory of the AdsML Framework download package. The ReadMe serves as a “Table of Contents” to the entire Framework.

” Each document serves a specific purpose. You do not need to read everything in order to use it”

Each document in the Framework serves a specific purpose, and many of them are aimed at different audiences. No one member of your team will need to read them all. As a whole, the Framework contains the following types of information:

- The **aims and purposes** of the AdsML Framework as a whole, so you can have realistic expectations about its role in your project, and a **glossary** of useful terms. (*Framework Overview* and *AdsML Glossary*.)
- The **business processes** and **workflows** that AdsML is able to support, so you can select the ones that will be automated in the project (*Advertisement Components Interactions Analysis*)
- General **rules and guidelines that apply to the entire AdsML Framework** (*AdsML E-Commerce Rules & Guidelines*). This document contains a mixture of business and technical information, so almost everyone in the project will need to be aware of relevant parts of it.
- The **rules and specifications for the business processes that you have chosen to automate**. These are defined in several different documents whose names correspond to the high level workflows that they automate, such as *AdsMLBookings*.
 - The **AdsML schemas** that define the e-commerce messages you will exchange with your trading partners.
 - **XML message samples** that your team can review to better understand how the specifications are meant to be implemented.
- **Controlled Vocabularies** (lists of codes) that are recommended for use in your messages (*AdsML Controlled Vocabularies*).
- **Supporting technical documentation** defining specific features of the Framework, such as *AdsML Envelope* and *AdsML Structured Descriptions*.

More information about these topics and materials can be found in chapter 3.

2.2 Form a project involving key trading partners

AdsML helps business partners, or *trading partners*, to understand and identify the points in the advertising lifecycle where they are able to effectively conduct business with one another by electronic, system-to-system communications, and then it provides specifications and guidelines for how to implement those communications. As a general

case, therefore, an AdsML project involves representatives of several organizations coming together to improve communications and workflows between their companies.

The AdsML Framework is designed to be extremely flexible supporting variations in business practices globally. An organization implementing AdsML will then need to make a number of business and technical decisions about how to configure it. But these decisions should not be made in a vacuum. When two or more trading partners use AdsML to communicate between their organizations, they need to have made *the same* choices about which parts of the advertising workflow to automate and how to configure their AdsML messages. Otherwise their systems will not be able to communicate properly with each other.

Usually one or two larger organizations will take the lead, and will invite a few of their trading partners to participate in the initial project. Assuming that this first set of trading partners contains a sufficiently diverse and representative group of companies, then the configuration decisions they make will probably also work for other companies in the same region. This process also ensures that the main business and technical decisions are made collectively, *before* the trading partners spend money implementing AdsML-based e-commerce software.

More information about these topics can be found in chapter 4.

2.3 Decide which parts of your advertising workflow to automate

At the start of the project, the initiating organization(s) will need to make a number of key decisions. The first and most important of these is: *what parts of the advertising workflow will be automated in this project?*

“what will be automated in this project?”

The AdsML Framework can be used to automate all or part of five major workflows:

- **Media Pack:** Messages to convey the publisher’s rate card(s), including pricing, circulation and demographic information.
- **Bookings:** Quotations, Reservations and/or firm Orders between a buyer and a seller of advertising, including responses (acceptance, rejection, changes, cancellations, etc.)
- **Materials Delivery:** Messages to convey the advertisements themselves from one party to another, and then to confirm receipt of the delivered materials.
- **Proof of Publication:** Messages by which a publisher/broadcaster can convey information about an advertisement that they have previously published or broadcast.
- **Financials:** Electronic invoices and credit memos, which can include detailed information about any advertisements that they reference.

Several of these workflows are themselves rather large, so it may be appropriate to select only parts of them. For example, a Bookings-related project might choose to implement only the Ordering workflow, ignoring Quotations and Reservations.

Once the high level workflows have been selected, the project team should drill in further and decide exactly which parts of the AdsML Framework will be relevant to the project:

- Which specific business transactions will the project automate?
- Which AdsML messages will be exchanged in order to automate those transactions?

The answers to these questions will define the *AdsML scope* of the project, and will allow the team to focus in on just those parts of the Framework that will allow them to implement that scope.

More information about these topics can be found in chapters 3, 5 and 6.

2.4 Agree with your trading partners the high level vision for the project

In addition to defining the project’s scope, the project members need to make a number of other practical decisions. Some of these apply to the project as a whole:

- Who will run the project office and coordinate the effort?
- What will be the timeline and phasing for the overall effort?
- How will the new automated workflows and transactions relate to the existing, non-AdsML processes by which the member companies currently do business? (Replace them, supplement them, etc.)

And other decisions will be specific to the individual member organizations:

- What types of software will need to be bought or built by each party, and how will shared costs and benefits be managed?
- How will these newly automated workflows integrate with legacy non-AdsML systems?

More information about these topics can be found in chapters 4 and 7.

2.5 Develop the Trading Partner Agreement

When trading partners exchange advertising e-commerce information they must agree on the types of information they will exchange, on the standards or formats they will

”The importance of completing a TPA at the start of the project cannot be overstated”

use to represent that information, and on how the information will be managed to ensure security and data integrity. These decisions cross business and technical levels of the project. All of this detail is captured in what is called a *Trading Partner Agreement (TPA)* that exists between the trading partners and governs all aspects of how they conduct business electronically.

AdsML does not define the format of the TPA, but it does identify the types of information that a TPA should contain. These are documented in the *AdsML E-Commerce Usage Rules & Guidelines* as a set of questions that the trading partners should answer at the start of their work together.

The importance of completing a TPA at the start of the project cannot be overstated. The process of answering these questions will bind the project members into a working team, and the answers to the questions will guide every aspect of the project as it goes forward.

More information about these topics can be found in chapter 6.

2.6 Identify suitable software and use it to help define the project

Any AdsML project will ultimately involve acquiring or modifying software. At an early stage in the life of the project its members should identify their options for buying, modifying or building the necessary software.

At the business level, AdsML is flexible and can be configured to support different business practices. It is thus important to carefully investigate how AdsML support has been implemented in available software products such as an ad booking system.

At a technical level, AdsML is based on broadly accepted technical standards such as XML and XML Schema. The use of these core XML technologies in the AdsML Framework means that AdsML is well supported by development tools, editors and software infrastructure such as XML parsers and XSLT processors.

”AdsML is based on broadly accepted technical standards”

Also, with the AdsML Framework grounded upon a comprehensive process model (the ACIA), and the AdsML business messages designed to support the execution of those processes, AdsML is well placed to be used as part of a wider technology stack in conjunction with other technologies such as BPEL (Business Process Execution Language) and BPM (Business Process Management) tools from the SOA world (Service Oriented Architectures).

More information about these topics can be found in chapter 7.

2.7 Implement and test the new systems and workflows

By this point the project team should be ready to start implementing the new AdsML-enabled systems and workflows.

For each trading partner, the workflow must be thoroughly tested before going into production. This usually involves running a test stream with the new digital workflow in parallel to an older existing workflow. For instance, it may be desirable to send both AdsMLBookings messages and faxes in parallel, with manual controls in place to make sure that both workflows yield the same result. This test process needs to be repeated for each new trading partner.

It should also be noted here that an AdsML project includes both technical and business aspects, and that the new workflow often not only replaces a manual older workflow but probably adds new features and capabilities that were not possible before. Running an AdsML project is thus often a driver for changes in business procedures that go beyond the actual project’s software applications. Testing and evaluation of both aspects are required.

Testing and adjustments are also increasingly more complex when the number of trading partners increases. Feedback from previous AdsML projects has shown that testing and fixing workflows across trading partner boundaries is more complex than in purely internal projects. Even though critical dependencies between trading partners are kept

to a minimum, there will always be issues that can only be solved by temporarily establishing complete synchronization between the trading partners.

3 The AdsML Framework

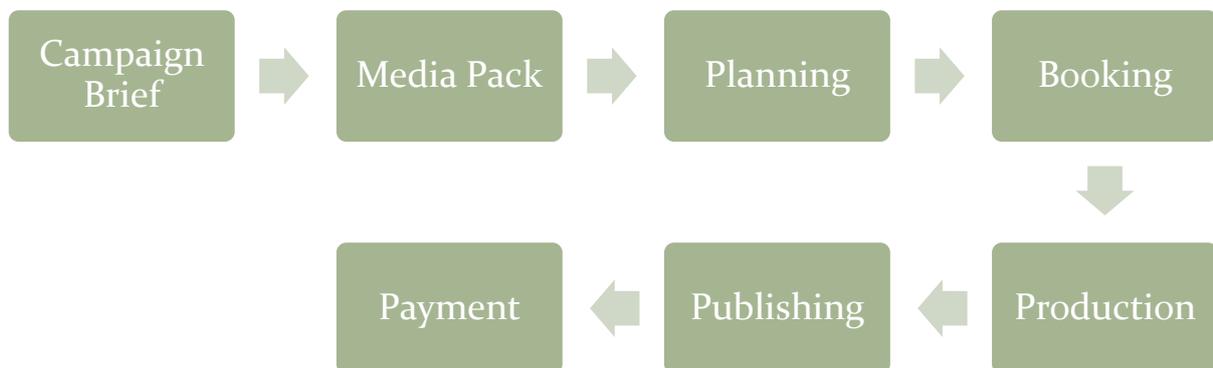
The *AdsML Framework of E-commerce Business Standards* consists of a set of messaging standards that are designed to work together to solve specific business problems in the advertising workflow, such as order taking, ad copy delivery or invoicing. In practice this means that the AdsML messaging standards share the same design principles: they use a common information structure, and they support common message choreography (i.e. the pattern by which messages are exchanged between trading partners).

At the business level, AdsML helps trading partners to understand and identify at which points in the advertising lifecycle they are able to effectively conduct business with one another by electronic, system-to-system communications. This is based on a generic business process model that has been developed and described by AdsML. The process model defines the major actors in the advertising workflow, such as the Advertiser, Payer and Publisher, and the flow of information that passes between the processes performed by these actors.

The AdsML process model and AdsML messaging standards taken together define the core parts of a *service contract* in a Service Oriented Architecture (SOA). Service orientation is applied in IT organizations all over the world to improve systems ability to support business change in a more flexible and loosely coupled way than by traditional isolated systems.

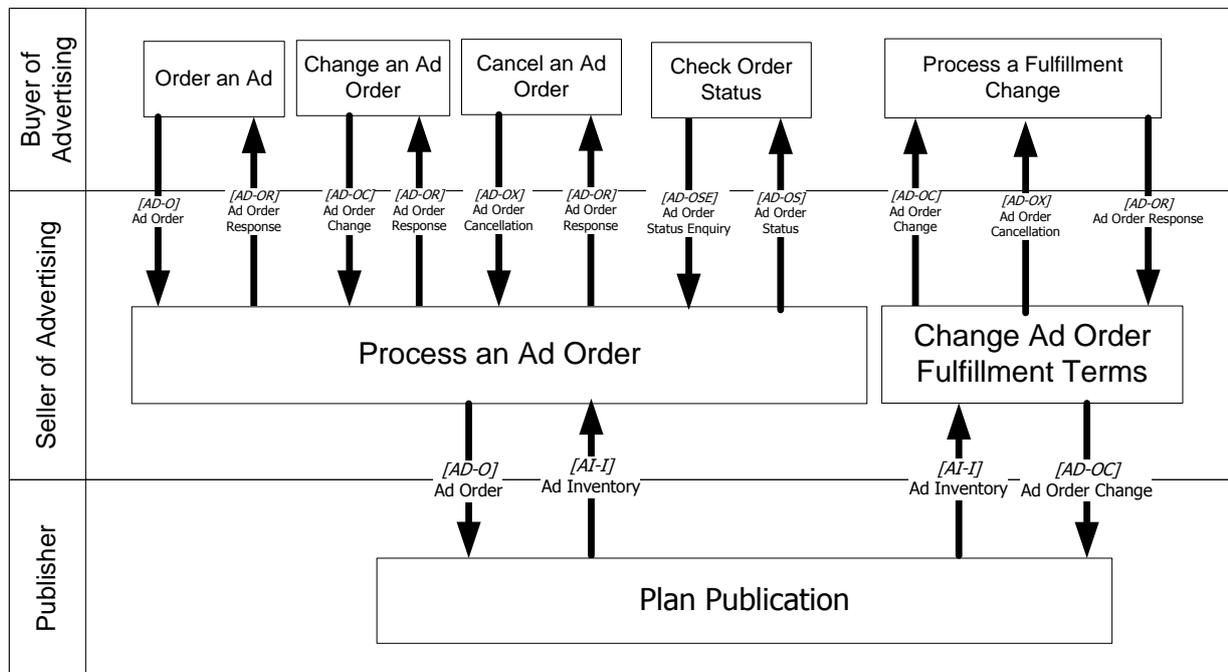
3.1 The advertising lifecycle

The AdsML business process model is organized according to major phases of the advertising life cycle:



- *Campaign brief* - Advertisers and Media Agencies publish their need for advertisement space
- *Media pack* - Publishers and space selling companies can describe their advertising offers, including technical specifications and rate cards
- *Planning* - Quotations and Reservations, Production planning
- *Booking* - New confirmed orders, changes and cancellations
- *Production* - Content production and materials management
- *Publishing* - Ad placement, publication and performance monitoring, proof of publication
- *Payment* - Invoicing and statements, payment notifications.

In every one of the identified phases, AdsML provides a generic workflow model where each information exchange is identified, named and described. For instance, the following graph from the *AdsML Advertising Components Interactions Analysis (ACIA)* describes the flow of information in the Bookings phase:



In the graph above, arrows represent message flows between processes where the messages are identified with a code and a name, such as Ad Order with the code AD-O. Note that the focus is on the messages themselves rather than the processes they flow along. In order not to be prescriptive about how processes may be organized in a particular organization, they are simply indicated by boxes with generic labels. From the example above, it is not important if the Buyer is using four processes or a single larger compound process to communicate order information with the Seller, but it is highly important that they communicate using standardized AdsML messages in order to be interoperable.

The benefit of defining the workflow in this way is that each stage of the advertising lifecycle and its associated business messages have been identified and modeled, ensuring that the AdsML Framework is based on thorough and rigorously researched coverage of the advertising lifecycle. AdsML users can use the model as a reference point for locating and understanding their own business in the context of the 'big picture' background of the whole advertising lifecycle.

With this contextualization, trading partners can identify the business messages, the types of data (e.g. technical specifications, production content) that their processes will need to receive and send, and the types of processes that they will need to integrate and interact with as they conduct business.

3.2 Available AdsML business message specifications

While the AdsML business process model provides complete coverage of the advertising lifecycle, it is important to note that not all messages identified in the model have actually been implemented as AdsML specifications. The complete process model serves as the overall roadmap for the AdsML Consortium, but the actual delivery of message specifications has been conducted in a phased manner governed by priorities and funding provided by the AdsML member organizations.

Currently, AdsML provides thorough specifications of business message exchanges covering workflows from the early planning to payment phases. It is possible to go from quotations and bookings, through production and materials management to order reconciliation and invoicing purely using AdsML messages.

The latest release of the AdsML Framework includes the following business level message specifications:

- *AdsML Bookings* – This specification covers the order workflows, going from quotations and reservations to confirmed orders in the Planning and Bookings phases of the advertising lifecycle.
- *AdsML Materials* – This specification covers materials delivery in the Production phase.
- *AdsML Media Pack* – This specification covers the rate card workflow, in which the publisher distributes pricing, circulation and demographic information about its publications.
- *AdsML Proof Of Publication* – This specification covers part of the Publishing phase. It is used to report back from the Publisher to the Buyer about the actual publication of the advertisement, for instance by means of an electronic tear-sheet and information about the performance of the advertisement.
- *AdsML Financials* – This specification provides the basic financial messages for debit (invoices) and credit notes as part of the Payment phase. In addition to common invoicing data, the messages include advertising specific structures to facilitate order reconciliation.

The major areas of the advertising lifecycle where AdsML does not provide any or only limited support in terms of published specifications are:

Further Reading

The *Advertising Components Interactions Analysis (ACIA)* provides a business process map of the advertising supply chain. This allows a project to map its business processes to the generic business process model of AdsML and to identify the business objects conveyed by AdsML messages that would execute those processes.

The ACIA supports business analysis and the early stages of technical analysis. It can be used to support the scoping of the project and to identify the processes and trading partners affected by the project.

- *Campaign Brief and Media Pack Technical Specifications* – The earliest phases of the lifecycle are generally handled by manual processes with small potential for automation and e-commerce. This is especially true for the Campaign Brief, while technical specifications may be a candidate for future work.
- *Planning* – Ad space inventory management and publication planning have not been specified. It is, however, envisaged that parts of the inventory control process can be performed using AdsML Bookings messages providing information to the Buyer regarding ad space availability.
- *Production* – Production control messages have not been specified.
- *Publishing* – The internal workflow within a Publisher’s operations leading to the actual publication of an advertisement has not been implemented.
- *Payment* – General financial messages such as statements have not been implemented (although statement information can be conveyed as notes within an invoice). Such messages are considered to include little, if any, advertising specific data.

Further Reading

The *Usage Rules and Guidelines and Specification & Schema* reference documentation that comes with each standard

The *AdsML E-commerce Usage Rules & Guidelines* contains the technical and business process rules for implementing the AdsML Framework business messages. The document explains how to use the architecture and messaging paradigm of the AdsML Framework and how to use controlled vocabularies in business messages to ensure that the meaning of business data exchanged between business partners is commonly understood.

For some workflows there are also already established, non-AdsML, messaging standards available. For instance, the Finvoice standard for electronic invoices is used in Finland; IfraAdConnexion is used for Planning and Bookings phases in Scandinavia.

This means that even though the AdsML process model is used as a general architecture, particular message flows can be implemented using message standards from other suppliers than AdsML itself, when required by local practice. But it is strongly recommended to use AdsML messages in as many workflows as possible since they are designed to work together.

From early planning to invoicing, the same information model and message choreography is used in the AdsML Framework, leading to the smallest possible gap between the phases in the advertising lifecycle.

3.3 Other AdsML specifications

In addition to the business level message specifications such as AdsML Bookings, AdsML also provides the following specifications:

- The *AdsML Ad Ticket* specification defines a simplified model of materials metadata intended to be embedded directly in an artwork file. It may, for instance, be implemented using the Adobe XMP technology.
- *AdsML Envelope* is a technical level specification for reliable message transfer over open standard internet communication channels. Business level messages or artwork files such as a PDF may be wrapped in an AdsML Envelope and transmitted by AdsML Envelope aware applications. These so-called AdsML Envelope Processors are intended to act as a messaging hub for an organization, allowing business level applications to communicate in a simpler way.
- The *AdsML Structured Descriptions* is a specification of how to create and implement a detailed machine-readable description about the content of an advertisement. One of the most obvious use cases is for classified ads where, for instance, the metadata for a car ad could include a description of its make, model, price and equipment.

4 Forming an AdsML e-commerce project

The AdsML Framework supports the automation of business processes across the advertising supply chain. An AdsML e-commerce project, therefore, can cross both technical and business boundaries. For example, AdsML messaging could be used for,

- Sending artwork data from a creative (i.e. Repro house) to an intermediary artwork delivery service for onward delivery to the publisher
- Exchanging booking data between booking and production systems within a publisher's internal IT systems

The fact that AdsML can support such widely different scenarios emphasizes the importance of identifying and involving the key trading partners and project stakeholders as early as possible in the project initiation stage.

4.1 Key aspects of an AdsML project

Project set-up and execution for an AdsML e-commerce project follows established norms for the management of IT projects – namely the definition of business objectives, specification of requirements, and the management of project execution as project gates are passed throughout the project lifecycle.

” an AdsML e-commerce project will always involve the integration and automation of processes across organizational boundaries”

Routine project management practice then ensures that risk, change and quality are managed throughout the project lifecycle so that the business objectives and benefits the project aims to achieve are delivered within the desired timescale, budget and to the level of quality required.

Where an AdsML e-commerce project differs from other projects is that it will always involve the integration and automation of processes across organizational boundaries. An AdsML project normally involves multiple trading partners that are affected by the project. Those partners must be involved in the very early planning stages of the project to ensure the impact and scope of the project is understood and agreed by the participating parties.

4.2 General project guidelines

To ensure the involvement of key trading partners and to coordinate the project, standard project management principles should be applied and some form of project office established. The following project guidelines are suggested for an AdsML project,

- *Project leadership board* – Establish a project ‘board’ or ‘steering committee’ when the project is first initiated. The project leadership should be responsible for scoping the project, identifying the trading partners who need to be involved, and aligning the project’s goals and objectives with the wider strategic and technical agendas of the participating parties.
- *Involve key trading partners* – Key stakeholders and ‘decision makers’ from the parties involved in and affected by the project should be involved in the project planning stage as soon as is feasible. This will support ‘buy-in’ from those business partners and help identify project issues and risks early in the planning process. This will help support and maintain project momentum as the project proceeds.
- *Business driven and step-by-step* – An AdsML project should be driven by business objectives and be clearly scoped to meet those objectives in manageable pieces. The project will probably go through a series of decision gates before all the requirements and costs have been determined and the final go-ahead is given; the project leadership board will play a critical role in steering this process.
- *Deliverables and requirements* – The project deliverables must be clearly defined and it must be possible to measure the quality of deliverables against the business and technical requirements they are intended to meet. Requirements themselves must be clearly defined and ought to have a clear trace back to the business objectives that motivated them. Criteria for assessing the quality of deliverables against those requirements must also be defined.
- *Resources* – The resources, human, economic, technical, required to execute the project must be available. Note that e-commerce projects often require competence in legal and contractual areas, in addition to the normal technical and business domain knowledge.
- *Processes* – The working processes by which the deliverables are produced must be in place, for example, an Agile or RUP-inspired development methodology.
- *Project management structure* – Project management and other roles such as team leadership must be in place to ensure the project is executed and that responsibilities and command structures are unambiguously and transparently defined.

”The involvement of key trading partners in the project planning phase is of critical importance”

The involvement of the key trading partners who will be exchanging AdsML messages in the project planning phase is of critical importance and is essential for a successful AdsML project. Beyond this factor, however, AdsML project management can be considered ‘generic’ and no particular project management methodology is required for an AdsML project; use whatever methodology and project management tools are appropriate to your organizational culture and practice.

5 Scoping an AdsML Project

The AdsML Framework aims to provide advertisers, publishers, broadcasters and their suppliers with a consistent toolkit of standards, messages and transactions that can be used to automate every aspect of the advertising supply chain, in any media, anywhere in the world. This means that the Framework contains more specifications and message types and can convey more types of information than any single organization is likely to need.

5.1 Configuring the AdsML Framework

In order to implement AdsML-based e-commerce, trading partners and their vendors (or industry associations acting on their behalf) are expected to review the AdsML Framework and decide:

- Which AdsML specifications will they implement within their particular region or business activity?
- Which business messages will they support?
- Which types of information will they include in their messages?
- Which information can be conveyed in machine-processable elements, vs. which has to be sent as unstructured text that requires human handling?
- For which machine-processable elements will they require the use of a particular controlled vocabulary in order to control the business semantics of the data?
- In what ways will they customize AdsML's messages to convey their specific business information?

The AdsML specifications include *Configuration Checklists* that allow implementers to define an appropriate functional subset, which is formally called an AdsML usage profile. These implementation decisions can be agreed privately between the trading partners (see TPA below), and/or codified in a formal profile document which is made publicly available in order to encourage interoperability.

Creating a usage profile of an AdsML standard is straightfor-

Further Reading

Advertising Components Interactions Analysis (ACIA). Refer to the ACIA for the business processes and advertising workflows modeled by the AdsML Framework and which AdsML business messages are used by those processes. The ACIA is a powerful aid to support scoping of the project and to identify the processes and trading partners affected by the project.

Usage Rules & Guidelines documentation for specific AdsML standards (e.g. AdsMLMaterials). For rules and guidance in specifying how a specific AdsML standard will be used in the workflows, refer to its usage rules documentation. In particular, refer to,

- The 'Business Messages Overview' chapter in the AdsML message standards to see at a glance which business transactions are supported by the standard
- The 'Use Cases...' chapter for recommended solutions and model workflows specific to the standard
- The 'Configuration Checklist' for the levels of functionality that the standard provides.

ward and the decision process for this is supported by the AdsML usage rules documentation. The specification of a usage profile of AdsML naturally emerges from the process of analysis and can be managed in the following steps:

- *Workflow analysis* – Perform process and workflow analysis to identify which workflows the project will automate using AdsML. Begin analysis in the AdsML Framework process model, which describes the complete advertising lifecycle.
- *Messages and Choreography* – In the process model, identify which AdsML messages will be used to automate the selected workflows, and therefore which AdsML specification documents will be relevant to the project.
- *Functionality* – Determine the level of available message functionality that will be used. Refer to the ‘Configuration Checklist’ of the AdsML specification usage rules to assist this process of selection.
- *Data content* – Agree which (if any) code lists and extensions will be used in the message content. The project may decide to use code lists defined by AdsML, proprietary, or a combination of both; AdsML is flexible enough to allow for any of these options.

An AdsML ‘profile’ naturally emerges from the above analysis steps. This profile defines how the project will use AdsML and is documented by the project as its ‘AdsML profile’. That ‘profile’ is specified for use in the project TPA. The profile documentation can be as detailed or as simple as the project feels is required. The basic success criterion is that it provides a single reference point that all parties can agree to as the specification of how AdsML is used in the project. As a project’s usage of AdsML evolves, the ‘profile’ evolves with it and can be versioned.

Even though profiling is a powerful concept that allows AdsML usage to be adapted to local business requirements, it should be used with care. A situation where all trading partners require a different profile to be used is clearly not desirable. Instead, before starting on an AdsML project, it is recommended to seek cooperation with possible trading partners, and even competitors, in the local market or geographical region to create a commonly accepted AdsML usage profile.

5.2 Example

A project scenario could, for example, be driven by the following choices:

- Only support the concepts of ‘reservations’, ‘orders’ and ‘cancellations’; the concepts of a ‘quotation’ and ‘change’ might not be recognized
- Only technical level acknowledgement messages could be returned rather than a business level response message like an ‘order response’.
- Materials for a booking could be sent either inline or externally transmitted (for example, by a delivery service).

Further Reading

AdsML E-commerce Usage Rules & Guidelines. The document explains how to use the architecture and messaging paradigm of the AdsML Framework and how to use controlled vocabularies in business messages to ensure that the meaning of business data exchanged between business partners is commonly understood. In particular, refer to,

- The ‘Achieving Interoperability’ chapter for guidance on how to configure the functionality and control the data content of AdsML messages.

AdsML Controlled Vocabularies. This document lists the vocabularies defined by AdsML for use in specific message contexts. Using these or their own controlled vocabularies, trading partners can restrict the data content of messages to achieve interoperability.

- In the booking, a placement is allowed to be for multiple publications, but placement groups will not be used.
- Specify the controlled vocabularies that are to be used.

The *Usage Rules & Guidelines* documentation from the AdsMLBookings specification is used to review common use cases and decide which use cases will be supported by the project. The usage rules and guidelines for AdsMLBookings and for the Framework (*E-commerce Usage Rules & Guidelines*) are also used to help specify the message choreography and functionality of AdsMLBookings that will be used, with the messages making use of controlled vocabularies (their own or those supplied by AdsML) as required.

For such a scenario a subset of the AdsMLBookings messages would be exchanged with only messages from the 'reservation' and 'order' message classes used. However, business response messages would not be used because of the constraint that only a technical acknowledgement is sent.

The project's profile of AdsMLBookings would therefore include,

- Only use Reservation and Order messages, with the restriction that no 'response' or 'change' messages were used
- Set its 'Configuration Checklist' so that,
 - 'Conveyance of ad materials – inline or external transmission' is allowed
 - 'Multiple publications' for a placement are allowed.
 - Placement Groups are not used.
- Use a datagram messaging model where technical acknowledgements only are sent (AdsML Administrative Response message) and business level response messages are not used
- Specify the controlled vocabularies to be used, for example a combination of AdsML and their own trading partner specific values.

6 TPA – The Trading Partner Agreement

This chapter discusses the working process for how to develop a Trading Partner Agreement (TPA), a process that will force trading partners and the project team to make many key decisions that cross legal, contractual, business and technical boundaries. These decisions drive the type of information exchanged, the content of that information, and how it is exchanged.

All of this detail must be captured in the TPA and the project team must ensure the four principle aspects of a TPA are covered: legal and contractual issues, transmission and security, business workflow, and AdsML messaging processing and configuration.

6.1 The Role of a TPA

When trading partners exchange advertising e-commerce information they must agree on the types of information they will exchange, on the standards or formats they will use to represent that information, and on how the information will be exchanged and managed to ensure security and data integrity. These decisions cross business and technical levels of the project. All of this detail is captured in what is called a *Trading Partner Agreement* (TPA) that exists between the trading partners and governs all aspects of how they conduct business.

“The TPA governs all aspects of how trading partners conduct business”

Two trading partners will only have one Trading Partner Agreement (TPA) between them. The TPA represents, in its entirety, the business relationship between the two entities (where an entity may be an entire organization or a part of an organization).

AdsML specifications are flexible so that they can be implemented to varying levels of functional and technical functionality. At the technical level, the business messages contain optional elements, allow data content to be controlled by the use of controlled vocabularies, and can be ‘configured’ to make use of varying levels of functionality as required by the business processes and workflows in the project implementation scenario. This customization matches the use of AdsML to the business and technical requirements of the project, and the TPA then documents the business and technical constraints of the project. However, it should be noted that a TPA must never overrule the definitions in the AdsML specifications.

6.2 Contents of a TPA

The TPA contains a combination of what can be described as technical and business level information. AdsML does not specify a prescriptive set of contents for a TPA because the detail of a TPA will always be implementation specific and tailored to the business relationships in place. The TPA should cover the four key areas described above, though, if it is to provide a practical basis on which to conduct e-business.

A suggested minimal content for these areas is described below.

Legal and Contractual

- Identification of parties, references to the contracts that govern the legal and contractual nature of the relationship. For example, aspects such as Service Level Agreements (SLA) and the definition of responsibilities.

“The TPA contains both business and technical level aspects”

Business Workflows

- From the advertising lifecycle, a list of the workflows that are to be automated, and the business messages that will be used to automate those workflows. For example, for the ‘Deliver Materials’ and ‘Receive and Validate Materials’ workflows the AM-M Ad Material, AM-R Ad Material Response, and AM-REST Ad Material Re-send Request messages will be used.

Message content and functionality

- The version(s) of the AdsML standards that may be used. If a specific profile is specified for use, or will be developed as part of this project, then this should be identified.
- The content and functionality of the business messages that will be used. This includes,
 - Supported functionality – the ‘Configuration Checklist’ items that will be used. For example, conveyance of materials can be by inline or external transmission.
 - Optional elements – depending on the message configuration, which optional elements should or should not be used in the messages.
 - Controlled vocabularies. A specification of any controlled vocabularies that are to be used as data content in the messages.

Transmission and Security decisions, and Error Handling

- Trading partner identification. The ID that will be used to uniquely identify the trading partners in message headers and business message content.
- Specification of technical transmission protocols to be used for message exchange. For example, the addresses of service endpoints, service interface definitions, or the transport protocols used for communication (e.g. SOAP messages over http, or ftp).
- Specification of security protocols used to protect messages and ensure they are protected and not interfered with, redirected, spoofed, or corrupted during mes-

sage exchange. For example, measures for encryption, digital signatures, user authentication and authorization, and security.

- Response/Acknowledgement functionality for messages – the messaging model that will be used for message exchange. For example, request/response or datagram.
- Error handling when technical problems are encountered with message exchange. For example, a corrupted message.
- Error handling when business-level problems are encountered with business messages that have passed technical processing but fail business-level validation. For example, contains erroneous or incomplete data.

As can be seen, the TPA contains both business and technical level content, and can also be used to specify the details of the ‘profile’ of AdsML that will be used by the project.

6.3 Developing and maintaining TPAs

The format of the TPA document itself is not prescribed by AdsML. It could be a formal machine-readable document or a legal human-readable one. The core criteria for a TPA are that the document must record the decisions made by the trading partners, and that the technical-level decisions that affect how the AdsML messages are processed must be available to the software that will process those AdsML messages as agreed in the TPA.

Note: You may copy relevant parts from the AdsML documentation into your TPA, provided that appropriate credit is given to the AdsML Consortium.

It is recommended that the party taking the leading role in an AdsML project create a TPA template that can later be used to define a specific TPA document per trading partner.

The TPA will record governance for the project that crosses company disciplines and departmental expertise. Four parallel working groups should be set up to focus on the different types of decisions that need to be made. In general these groups will be staffed with different types of people, corresponding to the types of decisions that need to be made:

- Legal and Contractual issues (corporate management and legal staff)
- Business Workflows (business managers and super users who are knowledgeable about the existing processes that are going to be automated)
- Transmission and Security decisions, and Error Handling (IT management and e-commerce experts)
- AdsML Messaging Processing and Configuration, and AdsML Envelope Configuration (a mixture of business managers and super users who understand the way the business works, plus IT personnel and facilitators who have educated themselves on the AdsML Framework)

Further Reading
AdsML E-commerce Usage Rules & Guidelines. Refer to Chapter 7, section 7.5 ‘Trading Partner Agreement’ for guidance on how to specify the project TPA.

The nature of a TPA is such that the bulk of its content cannot be known until the scoping and analysis phases of the project have been completed. Even then, technical implementation detail may change as the project moves through the construction phase and software is implemented, tested and deployed. Given this, there is not a perfect time in the project lifecycle to author the TPA. A practical approach is to iteratively complete the TPA as the project proceeds, recording relevant agreement details when

they become known and then refining those details before the final TPA is produced. Even when complete, a trading partner agreement must be considered as a “living document”. It is not a “one off” activity in the setup of an e-commerce relationship, but needs to be maintained throughout the life of the relationship.

As noted, the list of content for a TPA is not prescriptive. As a guideline, wherever trading partners agree on a rule that imposes a constraint on the content of a message or affects how messages are exchanged between them then these rules constitute a natural part of the TPA between the trading partners.

Although the task of developing a TPA can seem daunting, trading partners in early AdsML projects have consistently reported that the TPA development process has served to improve communications between them. Ironically, the move to automated e-commerce can result in more direct contact between the parties rather than less (at least during the setup and testing stages), which provides an opportunity for the parties to improve business relationships as well as workflows and procedures.

7 Software for AdsML

Once a decision has been made to commence an AdsML project, you will likely start looking for software applications that support AdsML processes and message formats.

7.1 AdsML compliant software applications

In many other areas where standards play important roles, the concept of “compliance” is used to assure that an application is following all the mandatory requirements of a standard. Compliance testing requires two things: a set of well defined compliance rules, and a testing procedure governed by a testing authority. For AdsML neither of these exist, which means that it is not actually possible for anyone to claim that an application is “100% AdsML compliant”.

“a single application will never support all of AdsML”

Also, the very nature of AdsML as a large and encompassing framework including many different business level and technical standards makes it unlikely that a single application, ever, will support all of AdsML. Rather, particular applications can be said to support AdsML Bookings, (e.g. a newspaper advertising system) or AdsML Materials and the AdsML Ad Ticket (a materials management system).

Some AdsML specifications are more difficult to make globally interoperable than others. For instance, AdsML Bookings is used to handle a variety of business models with many optional features. In such cases, it is very hard for a single application to support all functionality in a way that makes it completely interoperable with another application, from another vendor.

But for a specification such as the AdsML AdTicket, it is a slightly different story. It is relatively small in terms of properties and supports few but well defined usage cases and it has thus a high likelihood of being implemented by different vendors in the same way. Also a technically oriented specification such as the AdsML Envelope is easier to implement to be interoperable. It is governed by a set of well defined rules that can be enforced regardless of variations in local business practices.

Applications supporting the smaller, and more technically oriented, specifications involving less business complexity are thus more likely to be interoperable “out of the box” than applications closer to sales and customer relations. But in any case, it is extremely important, as a potential buyer of systems, to ensure that the AdsML support provided meets the business requirements and is configurable to handle variations in local implementations due to the use of AdsML profiles and other restrictions as agreed with trading partners.

7.2 AdsML is XML, so general XML tools can be relevant

At the basic technical level, standard XML tools such as XML parsers and editors, XSLT processors and XML Schema validation engines can be used. Such tools are available from large suppliers such as Microsoft, IBM or Oracle as well as open source organizations (e.g. Apache).

With the AdsML Framework grounded upon the AdsML business process model with the business messages designed to support the execution of those processes, AdsML is well placed to be used as part of a wider technology stack and in conjunction with other process technologies such as BPEL and BPM tools applied in the SOA world.

When many services or systems need to communicate with many other systems, located even in other organizations, it creates a complex communication pattern. An established way to handle this is to use a Service Mediator (SM), a software application that takes responsibility of being the single point of contact for the communication between systems involved in e-commerce transactions. Each system only communicates directly with the SM. The SM routes the messages to appropriate internal and external destinations, applying settings for communication protocol, code lists and formats that are particular for each trading partner.

The AdsMLEnvelope standard has targeted this problem area by providing an XML wrapper, an “envelope”, that allows a SM to supply secure communications in a standardized way. In the same sense as e.g. AdsMLBookings enables booking systems from different vendors to exchange data, the AdsMLEnvelope allows different SM applications to communicate with services or other SMs.

But it should be noted that for the simple case, all AdsML messages are plain XML messages that may be transmitted by any communication method that supports sending a file structure.

Service Oriented Architecture - SOA

Service orientation breaks up the traditional software application into a number of loosely coupled *Services*, creating a Service Oriented Architecture (SOA).

A *Service Contract* may be constructed as an internal company specific activity; a proprietary model for internal use often works well in the limited case. However, when services are part of a business process that spans company boundaries, broader standards such as AdsML that define how services should communicate and share information are required.

7.3 AdsML and SOA

A Service Oriented Architecture (SOA) provides an inventory of a number of independent service modules, which can be combined to support more complex tasks and business processes. Like pieces of Lego, they can be used in different constructions. But in order to enable consistent reuse across several combinations, it is required that a detailed *contract* be established for each service, a contract that defines all rules, usage guidelines, information structures, error handling, etc. that govern the usage of the service

The AdsML Framework provides the basis for such service contracts that will make services in the advertising industry interoperable (i.e. can work together). In AdsML, service contracts are parts of a Trading Partner Agreement (TPA).

Components from the AdsML Framework may be used in communication between services that are both external and internal to a company’s operations, allowing the same data structures and processes to be used between all services.

Adopting AdsML based service orientation as a basic concept in advertising systems leads thus to improved *business agility*. It can, for instance, facilitate changes in products and price models, trial and implementation of new products or even use of short lived, temporary, product offerings, as systems in the advertising lifecycle will be easier to reconfigure to support new business requirements and trading partners without requiring major changes to existing software.