Madrid Documentation Plan

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Madrid is the code name for the next major release of the Modulant Contextia Interoperability Platform. To be effective, the Modulant Contextia Interoperability Platform must be accompanied by clear and comprehensive documentation and online help.

This plan addresses the following topics:

- Audience
- Goals
- The New, Improved Documentation Library
- Open Issues
- Constraints
- Estimated Time Line

Audience

The audience for Modulant Contextia Interoperability Platform includes the following types of users:

- Domain Experts
- Interoperability Architects
- Interoperability Engineers
- System Administrators
- Interoperability Administrators
- Software Developers
- Product Evaluators

The remainder of this section identifies the responsibilities of each of these types of users. The Documentation Library must provide enough information for users of each type to be able to use Modulant Contextia productively.

Domain Experts

Domain experts collaborate with interoperability architects to help them understand the structure of their application data and the context in which it is used. In particular, they:

- Explain the physical structure of their data and expose implicit information about the use of the data in the context of specific business processes.
- Work with interoperability architects to develop mapping strategies based on the underlying concepts represented by the data.

Domain experts need not use the Modulant Contextia Interoperability Platform themselves.

Interoperability Architects

Interoperability architects use the Interoperability Workbench to describe application data and context and test their mappings. In particular, they:

- Work with domain experts to identify the scope of the required application interoperability, and establish an interoperability strategy (including selecting the correct Abstract Conceptual Model to use).
- Describe physical application data structures, and create corresponding logical structures in the form of ATS schemas.
- Map application context, following the mapping strategy for this interoperability environment.
- Analyze mapping specifications (data maps and context maps) for consistency and completeness and test and debug the resulting mappings.
- Extend the Abstract Conceptual Model when necessary.

Interoperability Engineers

Interoperability engineers assist interoperability architects. In particular, they:

- Apply a mapping strategy to create context maps within an interoperability environment.
- Define and perform interoperability runs, and analyze the results.

System Administrators

System administrators maintain the product and the physical machine(s) it resides on. System administrators often work with interoperability administrators (described in the next section) to ensure peak product performance. In particular, they:

- Administer individual and network machines.
- Perform initial product installation and configuration.
- Install product patches and product upgrades.

Interoperability Administrators

Interoperability administrators use the Interoperability Server Administrator to manage the day-to-day operations of the product. In particular, they:

- Monitor product performance, including memory usage, file system usage, VM (virtual machine) status, and log files.
- Identify and correct problems that affect the healthy operation of the product.

Software Developers

Java programmers use the Interoperability API to write programs that automate the process of transforming data from one or more data sources to one or more others.

Product Evaluators

Product evaluators want to be able to find answers to the following questions:

- How easy is Modulant Contextia to use?
- How will I learn enough to be productive?
- Can Modulant Contextia solve my company's problems?
- Does it really do what they claim it does?
- How does it work?

In order to enable product evaluators to answer their questions and be successful as fast as possible, TechPubs will provide the following documentation with an evaluation version of the Modulant Contextia Interoperability Platform:

- System Overview (in PDF format)
- built-in tutorials, in HTML format only, accessible from the Help menu, from Getting Started: Semantic Mediation in Action
- Installing the Modulant Contextia Interoperability Platform (in PDF format)
- Release Notes (also in PDF format)

Goals

According to "Product Direction, An Executive Briefing," from the Product Management team, the primary goals for the Madrid release include:

- Make the Product Easier to Learn
- Make the Product Easier to Use
- Minimize Modulant-specific Terminology

The rest of this section discusses how TechPubs intends to address each of these requirements in the Madrid Documentation Library.

Make the Product Easier to Learn

A significant part of this goal is to enable product evaluators or brand-new users to feel a sense of accomplishment as quickly as possible. The built-in tutorials will be the most effective way to do this.

To support this goal, TechPubs will:

- Create New Tutorials
- Capture the Behind-the-Scenes Thought Processes

Create New Tutorials

To enable new users to easily learn how to use the integrated Interoperability Workbench, the Madrid Documentation Library will include a number of tutorials:

To supplement the individual, feature-specific tutorials supplied as part of the Workbench, the Documentation Library will include a book tentatively called *Getting Started: Semantic Mediation in Action*, which combines the built-in exercises with material from Thomas's classes, to demonstrate how to identify and address various structural, syntactic, and semantic conflicts. For more information, see "Getting Started: Semantic Mediation in Action" on page 10.

These built-in tutorials will be available in HTML format, supplemented by "before" and "after" files in the **samples** directory, available from the **Help** menu of the Interoperability Workbench.

• For those who prefer a more linear approach, the Documentation Library will also include a separate *Interoperability Workbench Tutorial*, which walks you through an entire sample project from end to end. This tutorial will contain detailed instructions for using the tools at each step of the process. For more information, see "Interoperability Workbench Tutorial" on page 9.

Capture the Behind-the-Scenes Thought Processes

In addition, a new manual, *Using the Interoperability Workbench* (discussed in the next section), will capture the thought processes behind critical stages of the interoperability processes that are not explicitly implemented in any of the tools, including:

- Analyzing and understanding physical data structures in order to create data maps, especially for flat-file data
- Identifying application context, specifically uncovering implicit information that contributes to a more complete understanding of application semantics
- Defining a mapping strategy, from determining which high-level concepts are represented by an application to choosing the best ACM to use to capture the shared context in an interoperability environment
- Determining the success of an interoperability run and diagnosing and correcting problems

These focused tutorials will help interoperability engineers learn to solve specific problems.

This tutorial will give interoperability architects a clear perspective on the entire process. For each of these issues, the new integrated Workbench provides significant support, but only when you understand the process well enough to make informed decisions about how you want to implement interoperability.

Make the Product Easier to Use

To support this goal, TechPubs will:

- Provide an Integrated Workbench Guide
- Streamline the Entire Documentation Library

Provide an Integrated Workbench Guide

To coordinate with the integrated Interoperability Workbench, the Documentation Library will have a single manual, *Using the Interoperability Workbench*, that covers the entire process of implementing interoperability. This guide will combine portions of existing manuals to encompass entire process, including:

- The interoperability process as a whole (from Using the Context Mapper, Chapters 1, 2, 5)
- Interoperability environments and managing projects (from Using the Context Mapper, Chapter 6, plus new material)
- Data mapping (from *Using the Data Mapper*, Chapters 1, 2, 3, 4)
- Creating ATS schemas (consolidating *Using the Data Mapper*, Chapter 5, and *Using the Context Mapper*, Chapter 7)
- Context mapping, including validation and other reports (from *Using the Context Mapper*, Chapters 8, 9, 10, 11)
- Testing and debugging mapping specifications (from *Using the Interoperability Run Console*, Chapters 3, 4, 6)

For more information about this guide, see "Using the Interoperability Workbench" on page 11.

To facilitate the process of debugging, TechPubs will compile a list of error messages, to be published on the Modulant Technical Support section of the company Web site.

Streamline the Entire Documentation Library

With an integrated Workbench, it will be easier to consolidate the contents of all of the manuals in the Documentation Library to make the information more accessible. In addition to consolidating information about the design-time process into a single manual, this will also be accomplished by:

- Minimizing repeated material; for example:
 - ATS schemas will only be managed by the Data Mapper; therefore, discussions of ATS schemas can be removed from sections about the Context Mapper
 - The Interoperability Workbench will save run_config files generated from information you provide; therefore, the internal format of run_config files is only needed in the *Modulant Contextia Developer's Guide*
 - The new end-to-end tutorial removes the need for separate tutorials for the Context Mapper or the Interoperability Run Console in Using the Interoperability Workbench

Note: The chapters showing how to create data maps from sample data in each format (XML, flat-file, and RDBMS) will remain in *Using the Interoperability Workbench*

- Removing discussions of obsolete features, such as asynchronous interoperability runs. If the dependency on Oracle or SQL Server databases is eliminated, remove discussions of **dsconf** and replace them with a instructions for configuring multi-threaded operation.
- Removing descriptions of internal file formats for DTM and CXM files.

With the new artifact-management capability and built-in debugging features, the internals of the file formats are less important. If, at some future date, Modulant decides to reveal the internal file formats as an open standard, TechPubs recommends publishing this information on the Modulant Web site, rather than in the Documentation Library.

Combining the design-time tools into a single Workbench and consolidating server-side management into a single Interoperability Server Administrator will reduce the number of books in the Documentation Library. A smaller number of more focused books should make it easier for users to locate the information they need.

As a result of these changes, the final Documentation Library could end up with fewer manuals, and fewer pages overall than in the previous release. For details, see "The New, Improved Documentation Library" on page 7.

Minimize Modulant-specific Terminology

To promote both ease of learning and ease of use, the Madrid version of the Modulant Contextia Interoperability Platform will use simplified terminology. Using terms that are already familiar to software developers, rather than Modulant-specific terms, will reduce the confusion that people have experienced in understanding previous versions of the software.

To support this goal, TechPubs will:

- Incorporate the updated terminology into all manuals.
- Update the glossary that appears in the *System Overview* to include the new terms and any simplified definitions.

The New, Improved Documentation Library

According to Product Management, the Madrid product suite will include two groups of tools and a single, combined installer:

 A project-oriented Interoperability Workbench that will contain all the mapping and server functionality required to create, test, and deploy mappings.

This will be the primary tool of the interoperability architect.

• A server administration tool (probably based on the existing Interoperability Server Administrator) that will contain all the functionality required for administering an interoperability solution once it has been deployed.

This will be the primary tool of the interoperability administrator.

To support these tools, the Madrid Documentation Library will include:

- System Overview
- Documents supporting the Interoperability Workbench:
 - Interoperability Workbench Tutorial
 - Getting Started: Semantic Mediation in Action
 - Using the Interoperability Workbench
- Documents supporting the Interoperability Server:
 - Using the Interoperability Server Administrator
 - Modulant Contextia Developer's Guide
- Installing the Modulant Contextia Interoperability Platform
- Release Notes

Because of limited resources in both Development and TechPubs, there is no plan to provide context-sensitive help for the Madrid release. As in previous releases, the Documentation Library will be available both in print and online in HTML and PDF formats, with a thorough index and full-text search capability. It has not yet been determined which books will be bound together in composite volumes and which will be printed in separate bindings.

The rest of this section examines these books in more detail and presents a highlevel description of the contents of each.

System Overview

The *System Overview* will introduce information interoperability in general, including a description of the CIIM methodology. The overall structure will be similar to the 2.1 version, with updates to the details of the methodology, the workflow, and the actual tools.

This book will be especially useful for both product evaluators and new users of Modulant Contextia, including interoperability administrators, interoperability engineers, and interoperability architects.

Basic contents:

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- 1 Introducing Information Interoperability
- 2 Introducing the CIIM
- 3 The Interoperability Process
 - Design-time Process: Applying the CIIM
 - Run-time Process: Achieving Information Interoperability
 - Modulant Contextia Tools and Components
 - Design-time Tools: The Interoperability Workbench
 - Run-time Tools: The Interoperability Server (including administration and API)
- 5 An Interoperability Example

The example in this chapter will be the same one used in the end-to-end *Interoperability Workbench Tutorial*.

- 6 Deployment Considerations
- Glossary

As an initial estimate, this guide will be approximately 85 pages long.

This chapter might be combined with the next one for clarity, depending on the final design of the software.

The Glossary will appear only in the *System Overview*.

Interoperability Workbench Tutorial

This tutorial will supplement the individual tutorials bundled with the Interoperability Workbench, and will contain an end-to-end example based on the US_Tours and Euro_Travel data sets. This tutorial will show in detail how to develop all of the parts of the example shown in the *System Overview*.

This book will be especially useful for new users of Modulant Contextia, including interoperability engineers and interoperability architects.

Users will be able to do this end-to-end tutorial independently of the built-in tutorials described in the next section. It will be constructed so that it can be done either before or after the individual online tutorials, and will complement the material in those tutorials.

Basic contents:

- 1 Overview of the Interoperability Process and Workflow
- 2 Identifying an Interoperability Environment

This chapter will introduce the sample applications and describe the basic interoperability problems to solve.

3 Developing a Mapping Strategy

This chapter shows how to define a conceptual mapping strategy and save it as a mediation schema.

4 Describing Application Data

This chapter will show how to create an XML data map for the US_Tours application.

- 5 Creating an ATS Schema from a Data Map
- 6 Describing Application Context

This chapter will show how to create conversion definitions as part of the context mapping process.

7 Testing the Mapping Specifications

This chapter will show an interoperability run from US_Tours to itself.

8 Describing Another Application

This chapter will show how to create a flat-file data map for the Euro_Travel application. The flat-file data map will split a single date field into three parts instead of using "split" conversion definitions.

9 Testing and Deploying the Project

This chapter will show interoperability runs in both directions.

As an initial estimate, this guide will be approximately 100 pages long.

These chapters show how to map US_Tours, followed by a parallel discussion for Euro_Travel

Building on the earlier chapters, this chapter will show how to map Euro Travel to the mediation schema.

Getting Started: Semantic Mediation in Action

This guide will contain descriptions of each of the built-in tutorials that come with the Interoperability Workbench. The material in this guide will come primarily from the class materials created by Thomas, and will focus on specific structural, syntactic, or semantic conflicts and how to use the Interoperability Workbench to solve them.

This book will be especially useful for both product evaluators (the instructions for the built-in tutorials) and new users of Modulant Contextia, including interoperability engineers and interoperability architects.

Users will be able to do these individual focused tutorials independently of the end-to-end tutorial described in the previous section. They will be constructed so that they can be done either before or after the end-to-end tutorial, and will complement the material in that tutorial.

Specifics of the contents of these tutorials will be provided by Dan, and sample files will be provided by Thomas.

Possible topics include:

Note: For the Madrid release, this book might contain only the first few of these topics, with others to be added for future releases.

- Starting with finished data maps, mediation model, partial context maps:
 - Apply mapping strategy to complete context maps
 - Perform an interoperability run and view the results
- Starting with partial data maps:
 - Finish data mapping
 - Complete partial context maps
 - Perform interoperability run and view the results to see that data maps worked
- Starting with a mediation model and completed data maps:
 - Create context maps and perform interoperability run
- Starting with a description of the application data:
 - Design mapping strategy and create mediation model
 - Complete data maps and context maps and perform interoperability run
- Starting with not-quite-right maps and erroneous results:
 - Show how to debug and fix the maps to get desired results
 - Show examples where both data maps and context maps need fixing
- Show examples where input and output mappings are different and why
- Add new application to existing interoperability environment:
 - show where existing strategy is enough
 - show where must modify strategy and possibly also existing maps

 Choose among competing ACMs for a particular project (or among comparable constructs that could work, but some are better than others—say why they work better and show implications)

As an initial estimate, this guide could be up to 100 pages long.

Using the Interoperability Workbench

As previously mentioned, this guide will include information from three existing manuals:

- Using the Context Mapper
- Using the Data Mapper
- Using the Interoperability Run Console

This book will be especially useful for interoperability engineers and interoperability architects.

The following list describes the major changes that will transform the contents of these existing manuals into the new consolidated guide:

- Update descriptions of both the overall workflow and the methodology.
- Remove details of internal file formats (CXM and DTM).
- Remove instructions for creating data maps by editing the files yourself.
- Move discussion of the contents of the Modulant ACM to an appendix. This
 new appendix will discuss only that subset of the Modulant ACM that is used
 in the documentation and in training classes.
- Remove references to asynchronous interoperability runs and the Queue Monitor.
- Remove mention of icmd—command-line interoperability runs will be discussed only in Using the Interoperability Server Administrator and the Modulant Contextia Developer's Guide.
- If dependency on an Oracle or SQL Server database is gone from the product, remove mention of dsconf and setting database connections and replace it with a discussion of how to configure multi-threaded operation.

Basic contents:

- 1 Introduction
 - This chapter will include a description of the methodology.
- 2 The Mapping Process
- -----
- 3 Introducing the Interoperability Workbench

This chapter will include an overview of the new UI and instructions for defining and managing projects and interoperability environments.

- 4 Developing a Mapping Strategy
- **5** The Data Mapping Process (and tool window)

Gives a conceptual perspective.

NEW chapter!

Includes creation of mediation schema

- 6 Describing XML Data
- 7 Describing Flat-file Data
- 8 Describing Relational Data
- 9 Validating Data Maps
- 10 Creating an ATS Schema
- 11 The Context Mapping Process (and tool window)
- **12** Specifying Conversion Definitions
- 13 Validating Context Maps
- 14 Generating Mapping Reports
- 15 Testing and Debugging Mapping Specifications
 - Configuring and Performing Interoperability Runs
 - Analyzing the Results
- 16 Managing Interoperability Projects
- 17 Deploying Interoperability Solutions
- A EXPRESS-G Language Notation
- **B** Inside the Training Abstract Conceptual Model
 - Structure of the Abstract Conceptual Model
 - Extending the Abstract Conceptual Model
- C EXPRESS-XML DTD Format

Note: If EXML DTDs are still valid sources for ATS schemas, this appendix will be included.

As an initial estimate, this guide will be approximately 350 pages long. The following table shows how this page count was derived, based on the amount of material removed from each guide:

Contextia 2.1 Manual	Size in 2.1	Remaining Pages
Using the Context Mapper	330	200
Using the Data Mapper	175	100
Using the Interoperability Run Console	100	50
Total		350

Using the Interoperability Server Administrator

For the Madrid release, the server-side tools will include more support for local and remote administrative tasks performed by an interoperability administrator, including:

- Monitoring memory usage, file system usage, VM status, and log messages.
- Starting, stopping, and restarting the server.

NEW: will include better debugging information

NEW chapter!

- Adjusting configuration settings, for example in the following situations:
 - for performance tuning
 - to accommodate network changes

This book will be especially useful for interoperability administrators and for interoperability architects who want to become familiar with server-side operations.

This book might also contain information about deploying interoperability projects, if it is determined that interoperability administrators would find this information useful.

The new version of *Using the Interoperability Server Administrator* will include information about monitoring and configuration. This plan assumes that these new features will be added to the existing Web-based Server Administrator tool; if the tool changes or a new one replaces it, the manual will change accordingly.

Basic contents:

- 1 Introducing the Interoperability Server Administrator
- 2 Controlling the Interoperability Server
- 3 Managing Database Connections

If dependency on an Oracle or SQL Server database is gone from the product, remove mention of setting database connections and replace it with a discussion of how to configure multi-threaded operation.

- 4 Monitoring Server Operations
- 5 Changing Server Configuration
- 6 Performance Tuning
- 7 Deploying Interoperability Solutions
- A Command-line Tools

As an initial estimate, this guide will be approximately 100 pages long.

Modulant Contextia Developer's Guide

For the Madrid release, the Interoperability API will be substantially the same as in Modulant Contextia 2.1. The major change to this guide will be to remove mention of asynchronous runs from discussions of the API (both the how-to and reference chapters), SOAP, and **icmd**.

This book will be especially useful for software engineers who are writing Java programs to automate interoperability transformations and to incorporate interoperability services into existing applications.

These next two might be combined

where does this actually belong?

icmd, iserver, and dsconf (if it still exists) Basic contents:

- 1 Introducing the Interoperability API
- 2 Run-time Setup

If dependency on an Oracle or SQL Server database is gone from the product, remove mention of **dsconf** and setting database connections and replace it with a discussion of how to configure multi-threaded operation.

- 3 Using the Interoperability API
- 4 Using Web Services and SOAP
- 5 Interoperability API Reference
- 6 Command-Line Tools
- A *run_config.xml* Reference

As an initial estimate, this guide will be approximately 120 pages long.

Installing the Modulant Contextia Interoperability Platform

A single installation program will accommodate both the design-time (Workbench) and run-time (Server) tools; therefore, only a single installation guide will be provided. If both GUI-based and command-line (script-based) versions exist, this guide will describe both.

This book will be especially useful for both product evaluators and system administrators, and anyone else who wants to install Modulant Contextia.

According to Project Management, the Madrid installation process will meet the following criteria:

- After a successful installation has been completed, the user should be presented with the option of taking a "tour" of the product.
- A downloadable "evaluation" version with a separate license key that includes an expiration date will be available.
- Includes at least basic configuration options as part of installation, including:
 - Server Data Sources
 - SOAP Conduit
 - JMS Conduit
 - Remote Administration
 - System User Logins
- An upgrade process will be available (including applying patches)

The new installation guide will accommodate all of these features.

Basic contents:

1 The Installation Process

Includes system requirements, instructions for running the installation program, and a list of what you get after you have finished installing.

2 Database Setup

If dependency on an Oracle or SQL Server database is gone from the product, remove mention of setting database connections and replace it with a discussion of how to configure multi-threaded operation.

- 3 Configuring the Modulant Contextia Interoperability Platform
- A FirstSTEP XG and FirstSTEP EXML (Windows only)

As an initial estimate, this guide will be approximately 50 pages long.

Release Notes

The release notes will list what's new in the Madrid release. This document will include migration information if applicable. Specifically, the release notes will mention:

- New Features
- Resolved Issues
- Known issues

Summary

The following table lists the proposed contents of the Madrid Documentation Library, with initial estimates for the page count of each book:

Book Title	Approximate Size
System Overview	85
Interoperability Workbench Tutorial	100
Getting Started: Semantic Mediation in Action	100
Using the Interoperability Workbench	350
Using the Interoperability Server Administrator	100
Modulant Contextia Developer's Guide	120
Installing the Modulant Contextia Interoperability Platform	50
Release Notes	10
Total	915

Open Issues

The following items have yet to be decided:

Now that the Data Mapper can read an XML data file and generate a skeleton data map, and then generate an ATS schema, does it still make sense to be able to import a PDML DTD as the source for an ATS schema?

Removing this option (which can now be considered redundant) will simplify the documentation and also eliminate the need to ship (or even mention) FirstSTEP EXML.

- What will our relationship with the FirstSTEP tools be for the Madrid release?
- What will the built-in tutorials look like? How will they be presented in the Interoperability Workbench (in what format; with what documentation support—pointers to printed books, or some online form as well)?

TechPubs recommends having Development create the necessary files for each tutorial (both "before" and "after" versions, in the **samples** directory) and instructions in HTML, to be displayed in a specifically sized window, with links from each topic to the next.

Constraints

Successful delivery of the Documentation Library, according to the timeline on page 17, depends on the following factors:

- Sufficient writer resources to produce the specified documentation
- Solutions to questions in "Open Issues" on page 16
- Terminology, methodology, and workflow solidified early enough in the process to incorporate new information into the appropriate manuals
- Working builds of the actual software, and supporting software to be able to run the prototype tools
- No new requirements for product features or enhancements that necessitate additional documentation
- Timely technical review comments; engineering resources to review documents
- Engineering resources to provide calls from the Workbench **Help** menu to the beginning of each of the built-in tutorials, and QA resources to test these links
- Engineering schedule slippage

Estimated Time Line

The schedule is based on informal industry metrics, to be taken with a large grain of salt. In general a technical writer can create 4–8 pages of user-guide material or two online help topics per day; this includes time for researching, writing, editing, verifying, and incorporating review comments.

The following table shows approximate dates of completion of each piece; final date will be affected a number of factors, including those listed in "Constraints" above:

Month	Task	
October 2002	Complete and release this documentation plan	
November 2002	Start updating System Overview	
December 2002	Design and start writing tutorials:	
	 end-to-end tutorial in <i>Interoperability Workbench Tutorial</i> 	
	 built-in, focused, independent tutorials for <i>Getting</i> Started: Semantic Mediation in Action 	
January 2003	Continue writing tutorials	
	 Start writing Using the Interoperability Workbench 	
February 2003	Complete Using the Interoperability Workbench	
	 Modify Modulant Contextia Developer's Guide as necessary 	
March 2003	 Update Using the Interoperability Server Administrator to include new monitoring and configuration functions 	
	 Update Installing the Modulant Contextia Interoperability Platform to match new combined installer program 	
	 Write Release Notes 	