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**Space data and information transfer  
systems — Mission Operations  
Message Abstraction Layer - JAVA API**

*Systèmes de transfert des informations et données spatiales — Couche  
d'abstraction des messages des opérations de mission — JAVA API*



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CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
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**CCSDS**

The Consultative Committee for Space Data Systems

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**Recommendation for Space Data System Practices**

**MISSION OPERATIONS  
MESSAGE  
ABSTRACTION LAYER—  
JAVA API**

**RECOMMENDED PRACTICE**

**CCSDS 523.1-M-1**

**MAGENTA BOOK**

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## CONTENTS

<u>Section</u>	<u>Page</u>
<b>1 INTRODUCTION</b> .....	<b>1-1</b>
1.1 PURPOSE OF THIS RECOMMENDED PRACTICE .....	1-1
1.2 SCOPE.....	1-1
1.3 APPLICABILITY.....	1-1
1.4 RATIONALE.....	1-1
1.5 DOCUMENT STRUCTURE .....	1-1
1.6 DEFINITIONS.....	1-2
1.7 CONVENTIONS.....	1-2
1.8 REFERENCES .....	1-4
<b>2 OVERVIEW</b> .....	<b>2-1</b>
2.1 GENERAL.....	2-1
2.2 MO SERVICE FRAMEWORK JAVA MAPPING .....	2-3
2.3 MAPPING FROM MAL DOCUMENT.....	2-5
<b>3 MAL API</b> .....	<b>3-1</b>
3.1 GENERAL.....	3-1
3.2 MAL PACKAGE.....	3-3
3.3 DATA STRUCTURES PACKAGE.....	3-40
3.4 CONSUMER PACKAGE .....	3-58
3.5 PROVIDER PACKAGE.....	3-94
3.6 BROKER PACKAGE .....	3-134
<b>4 SERVICE MAPPING</b> .....	<b>4-1</b>
4.1 OVERVIEW .....	4-1
4.2 DEFINITION.....	4-1
4.3 CONSUMER .....	4-8
4.4 PROVIDER .....	4-25
4.5 DATA STRUCTURES.....	4-40
4.6 ELEMENT FACTORY CLASSES .....	4-50
4.7 MULTIPLE ELEMENT BODY CLASSES.....	4-51
4.8 HELPER AND ELEMENT FACTORY CLASSES .....	4-53
<b>5 TRANSPORT API</b> .....	<b>5-1</b>
5.1 GENERAL.....	5-1
5.2 CLASSES AND INTERFACES .....	5-1

**CONTENTS (continued)**

<u>Section</u>	<u>Page</u>
<b>6 ACCESS CONTROL API</b> .....	<b>6-1</b>
6.1 GENERAL.....	6-1
6.2 CLASSES AND INTERFACES .....	6-1
<b>7 ENCODING API</b> .....	<b>7-1</b>
7.1 OVERVIEW .....	7-1
7.2 CLASSES AND INTERFACES .....	7-1
<b>ANNEX A DEFINITION OF ACRONYMS (INFORMATIVE)</b> .....	<b>A-1</b>
<b>ANNEX B INFORMATIVE REFERENCES (INFORMATIVE)</b> .....	<b>B-1</b>
<b>ANNEX C SECURITY, SANA, AND PATENT CONSIDERATIONS (INFORMATIVE)</b> .....	<b>C-1</b>
<b>ANNEX D CODE EXAMPLE (INFORMATIVE)</b> .....	<b>D-1</b>

Figure

2-1 Mission Operations Services Concept Document Set .....	2-1
2-2 Relationship of MO Books .....	2-2
2-3 Overview of the Mission Operations Service Framework .....	2-3
2-4 MO Framework Java Mapping.....	2-4
3-1 Relationships between the API Main Interfaces.....	3-2
4-1 Relationships between the Stub Classes and Interfaces .....	4-8
4-2 Relationships between the Skeleton Classes and Interfaces (Delegation Pattern) .....	4-26
4-3 Relationships between the Skeleton Classes and Interfaces (Inheritance Pattern).....	4-26
4-4 Multi-Binding Service Provider .....	4-27

Table

1-1 Variable Value Case Rules .....	1-4
3-1 API Main Interfaces.....	3-1
3-2 MALContextFactory ‘registerFactoryClass’ Parameter.....	3-4
3-3 MALContextFactory ‘deregisterFactoryClass’ Parameter .....	3-4
3-4 MALContextFactory ‘createMALContext’ Parameter.....	3-6
3-5 MALContextFactory ‘registerArea’ Parameter .....	3-6
3-6 MALContextFactory ‘lookupArea’ Parameters .....	3-7
3-7 MALContextFactory ‘registerError’ Parameters.....	3-8
3-8 MALContextFactory ‘lookupError’ Parameter .....	3-8
3-9 MALContext ‘getTransport’ Parameters.....	3-11

**CONTENTS (continued)**

<u>Table</u>	<u>Page</u>
3-10 MALService Attributes .....	3-12
3-11 MALService Constructor Parameters .....	3-13
3-12 MALService 'setArea' Parameter .....	3-15
3-13 MALService 'addOperation' Parameter .....	3-15
3-14 MALOperation Attributes .....	3-16
3-15 MALOperation Constructor Parameters .....	3-16
3-16 MALOperation 'getOperationStage' Parameter .....	3-18
3-17 MALOperation 'setService' Parameter .....	3-19
3-18 Interaction Stages Constants .....	3-20
3-19 Operation stages .....	3-21
3-20 MAL<<Ip>>Operation Constructor Parameters .....	3-21
3-21 MALOperationStage Attributes .....	3-23
3-22 MALOperationStage Constructor Parameters .....	3-24
3-23 MALOperation 'setOperation' Parameter .....	3-25
3-24 MALService Attributes .....	3-26
3-25 MALArea Constructor Parameters .....	3-26
3-26 MALArea 'addService' Parameter .....	3-27
3-27 MALService Constructor Parameters .....	3-28
3-28 MALException Constructor Parameters .....	3-30
3-29 MALInteractionException Constructor Parameter .....	3-31
3-30 MALElementFactoryRegistry 'registerElementFactory' Parameters .....	3-32
3-31 MALElementFactoryRegistry 'lookupElementFactory' Parameter .....	3-33
3-32 MALElementFactoryRegistry 'deregisterElementFactory' Parameter .....	3-33
3-33 MALEncoder and MALDecoder Variables .....	3-34
3-34 MALEncoder 'encode[Nullable]<<Attribute>>' Parameter .....	3-35
3-35 MALListEncoder 'createListEncoder' Parameter .....	3-36
3-36 MALListDecoder 'createListDecoder' Parameter .....	3-36
3-37 MALEncoder 'encode[Nullable]Element' Parameter .....	3-37
3-38 MALDecoder 'decode[Nullable]Element' Parameter .....	3-37
3-39 MALEncoder 'encode[Nullable]Attribute' Parameter .....	3-38
3-40 Element 'encode' Parameter .....	3-41
3-41 Element 'decode' Parameter .....	3-42
3-42 Enumeration Constructor Parameter .....	3-44
3-43 MAL::Attribute Types Mapped to a Java Type .....	3-45
3-44 Union Variables .....	3-46
3-45 Union Constructor Parameter .....	3-46
3-46 Blob Byte Array Constructor Parameter .....	3-49
3-47 Blob URL Constructor Parameter .....	3-50
3-48 MAL::Attribute Types Represented by a Specific Class .....	3-53
3-49 Initial Value Assigned by the <<Attribute>> Empty Constructor .....	3-54
3-50 MALConsumerManager 'createConsumer' Parameters .....	3-59

**CONTENTS (continued)**

<u>Table</u>	<u>Page</u>
3-51 QoS Properties .....	3-60
3-52 MALConsumer ‘send’ Parameters .....	3-62
3-53 MALConsumer ‘submit’ Parameters .....	3-63
3-54 MALConsumer ‘request’ Parameters .....	3-64
3-55 MALConsumer ‘invoke’ Parameters .....	3-66
3-56 MALConsumer ‘progress’ Parameters .....	3-67
3-57 MALConsumer ‘register’ Parameters .....	3-68
3-58 MALConsumer ‘deregister’ Parameters .....	3-70
3-59 MALConsumer ‘asyncSubmit’ Parameters .....	3-71
3-60 MALConsumer ‘asyncRequest’ Parameters .....	3-72
3-61 MALConsumer ‘asyncInvoke’ Parameters .....	3-73
3-62 MALConsumer ‘asyncProgress’ Parameters .....	3-75
3-63 MALConsumer ‘asyncRegister’ Parameters .....	3-76
3-64 MALConsumer ‘asyncDeregister’ Parameters .....	3-77
3-65 MALConsumer ‘continueInteraction’ Parameters .....	3-78
3-66 MALConsumer ‘setTransmitErrorListener’ Parameter .....	3-79
3-67 MALInteractionListener ‘submitAckReceived’ Parameters .....	3-81
3-68 MALInteractionListener ‘submitErrorReceived’ Parameters .....	3-81
3-69 MALInteractionListener ‘requestResponseReceived’ Parameters .....	3-82
3-70 MALInteractionListener ‘requestErrorReceived’ Parameters .....	3-83
3-71 MALInteractionListener ‘invokeAckReceived’ Parameters .....	3-83
3-72 MALInteractionListener ‘invokeAckErrorReceived’ Parameters .....	3-84
3-73 MALInteractionListener ‘invokeResponseReceived’ Parameters .....	3-85
3-74 MALInteractionListener ‘invokeResponseErrorReceived’ Parameters .....	3-85
3-75 MALInteractionListener ‘progressAckReceived’ Parameters .....	3-86
3-76 MALInteractionListener ‘progressAckErrorReceived’ Parameters .....	3-87
3-77 MALInteractionListener ‘progressUpdateReceived’ Parameters .....	3-87
3-78 MALInteractionListener ‘progressUpdateErrorReceived’ Parameters .....	3-88
3-79 MALInteractionListener ‘progressResponseReceived’ Parameters .....	3-89
3-80 MALInteractionListener ‘progressResponseErrorReceived’ Parameters .....	3-89
3-81 MALInteractionListener ‘registerAckReceived’ Parameters .....	3-90
3-82 MALInteractionListener ‘registerErrorReceived’ Parameters .....	3-91
3-83 MALInteractionListener ‘notifyReceived’ Parameters .....	3-91
3-84 MALInteractionListener ‘notifyErrorReceived’ Parameters .....	3-92
3-85 MALInteractionListener ‘deregisterAckReceived’ Parameters .....	3-92
3-86 MALProviderManager ‘createProvider’ Parameters .....	3-95
3-87 MALProvider ‘createPublisher’ Parameters .....	3-99
3-88 MALProvider ‘setTransmitErrorListener’ Parameter .....	3-100
3-89 MALInteractionHandler ‘malInitialize’ Parameter .....	3-103
3-90 MALInteractionHandler ‘handleSend’ Parameters .....	3-103
3-91 MALInteractionHandler ‘handleSubmit’ Parameters .....	3-104

**CONTENTS (continued)**

<u>Table</u>	<u>Page</u>
3-92 MALInteractionHandler ‘handleRequest’ Parameters .....	3-105
3-93 MALInteractionHandler ‘handleInvoke’ Parameters .....	3-105
3-94 MALInteractionHandler ‘handleProgress’ Parameters .....	3-106
3-95 MALInteractionHandler ‘malFinalize’ Parameter .....	3-107
3-96 MALInteractionHandler ‘get/setQoSProperty’ Parameters .....	3-108
3-97 MALSubmit ‘sendError’ Parameter .....	3-109
3-98 MALResponse ‘sendResponse’ Parameter.....	3-111
3-99 MALResponse ‘sendError’ Parameter .....	3-112
3-100 MALInvoke ‘sendAcknowledgement’ Parameters.....	3-113
3-101 MALProgress ‘sendUpdate’ Parameter .....	3-115
3-102 MALProgress ‘sendUpdateError’ Parameter.....	3-116
3-103 MALPublisher ‘publish’ Parameters .....	3-117
3-104 MALPublisher ‘register’ Parameters .....	3-118
3-105 MALPublisher ‘asyncRegister’ Parameters.....	3-120
3-106 MALPublisher ‘asyncDeregister’ Parameter.....	3-121
3-107 MALPublishInteractionListener ‘publishRegisterAckReceived’ Parameters .....	3-123
3-108 MALPublishInteractionListener ‘publishRegisterErrorReceived’ Parameters .....	3-123
3-109 MALPublishInteractionListener ‘publishErrorReceived’ Parameters .....	3-124
3-110 MALPublishInteractionListener ‘publishDeregisterAckReceived’ Parameters.....	3-125
3-111 MALProviderSet Constructor Parameter.....	3-125
3-112 MALProviderSet ‘createPublisherSet’ Parameters .....	3-126
3-113 MALProviderSet ‘addProvider’ Parameter .....	3-127
3-114 MALProviderSet ‘removeProvider’ Parameter .....	3-128
3-115 MALPublisherSet Constructor Parameters.....	3-129
3-116 MALPublisherSet ‘createPublisher’ Parameter.....	3-129
3-117 MALPublisherSet ‘deletePublisher’ Parameter.....	3-130
3-118 MALPublisherSet ‘publish’ Parameters .....	3-131
3-119 MALPublisherSet ‘register’ Parameters .....	3-131
3-120 MALPublisherSet ‘asyncRegister’ Parameters .....	3-132
3-121 MALPublisherSet ‘asyncDeregister’ Parameter.....	3-133
3-122 MALBrokerManager ‘createBroker’ Parameter.....	3-135
3-123 MALBrokerBinding ‘createBrokerBinding’ Parameters.....	3-136
3-124 MALBrokerBinding ‘sendNotify’ Parameters .....	3-139
3-125 MALBrokerBinding ‘sendNotifyError’ Parameters .....	3-140
3-126 MALBrokerBinding ‘sendPublishError’ Parameters .....	3-142
3-127 MALBrokerBinding ‘setTransmitErrorListener’ Parameter .....	3-143
3-128 MALBrokerHandler ‘malInitialize’ Parameter .....	3-145
3-129 MALBrokerHandler ‘handleRegister’ Parameters .....	3-145
3-130 MALBrokerHandler ‘handlePublishRegister’ Parameters .....	3-146
3-131 MALBrokerHandler ‘handlePublish’ Parameters .....	3-147
3-132 MALBrokerHandler ‘handleDeregister’ Parameters.....	3-148

**CONTENTS (continued)**

<u>Table</u>	<u>Page</u>
3-133 MALBrokerHandler ‘handlePublishDeregister’ Parameters.....	3-148
3-134 MALBrokerHandler ‘malFinalize’ Parameter.....	3-149
4-1 Service Mapping Variables.....	4-3
4-2 Area Classes.....	4-7
4-3 Service Classes .....	4-7
4-4 <<Service>>Stub Attribute.....	4-21
4-5 <<Op>> Publisher Attribute.....	4-30
4-6 <<Op>>Publisher constructor Parameter .....	4-30
4-7 <<Op>>Publisher ‘publish’ Parameters .....	4-31
4-8 Invoke <<Op>>Interaction Attribute .....	4-32
4-9 Progress <<Op>>Interaction Attribute.....	4-34
4-10 <<Service>>InheritanceSkeleton Attributes .....	4-36
4-11 <<Service>>DelegationSkeleton Attributes.....	4-39
5-1 MALTransportFactory Attributes.....	5-1
5-2 MALTransportFactory ‘registerFactoryClass’ Parameters .....	5-2
5-3 MALTransportFactory ‘deregisterFactoryClass’ Parameter .....	5-2
5-4 MALTransportFactory Constructor Parameter.....	5-3
5-5 MALTransportFactory ‘newFactory’Parameter.....	5-4
5-6 MALTransportFactory ‘createTransport’ Parameter.....	5-5
5-7 MALTransport ‘createEndpoint’ Parameters .....	5-6
5-8 MALTransport ‘getEndpoint’ Parameters .....	5-7
5-9 MALTransport ‘deleteEndpoint’ Parameter.....	5-7
5-10 MALTransport ‘isSupportedQoSLevel’ Parameter.....	5-8
5-11 MALTransport ‘isSupportedInteractionType’ Parameter .....	5-9
5-12 MALTransport ‘createBroker’ Parameters.....	5-10
5-13 MALEndpoint ‘createMessage’ Parameters.....	5-15
5-14 MALEndpoint ‘sendMessage’ Parameters .....	5-16
5-15 MALEndpoint ‘sendMessages’ Parameters .....	5-17
5-16 MALEndpoint ‘setMessageListener’ Parameter .....	5-17
5-17 MALMessageBody ‘getBodyElement’ Parameters .....	5-20
5-18 MALMessageBody ‘getEncodedBodyElement’ Parameter .....	5-20
5-19 MALPublishBody ‘getUpdateLists’ Parameter.....	5-23
5-20 MALPublishBody ‘getUpdateList’ Parameter .....	5-23
5-21 MALPublishBody ‘getUpdate’ Parameter .....	5-24
5-22 MALPublishBody ‘getEncodedUpdate’ Parameter .....	5-25
5-23 MALEncodedElement Constructor Parameter .....	5-27
5-24 MALMessageListener ‘onMessage’ Parameters.....	5-29
5-25 MALMessageListener ‘onMessages’ Parameters .....	5-29
5-26 MALMessageListener ‘onInternalError’ Parameters.....	5-30
5-27 MALTransmitErrorException Constructor Parameters.....	5-30
5-28 MALTransmitMultipleErrorException Constructor Parameter .....	5-32



**CONTENTS (continued)**

<u>Table</u>	<u>Page</u>
5-29 MALEncodedElementList Constructor Parameters .....	5-33
5-30 MALEncodedBody Constructor Parameter.....	5-33
5-31 MALTransmitErrorListener ‘onTransmitError’ Parameters .....	5-34
6-1 MALAccessControlFactory ‘registerFactoryClass’ Parameters .....	6-2
6-2 MALAccessControlFactory ‘deregisterFactoryClass’ Parameter .....	6-2
6-3 MALAccessControlFactory ‘createAccessControl’ Parameter.....	6-3
6-4 MALAccessControl ‘check’ Parameter.....	6-4
6-5 MALCheckErrorException Constructor Parameters.....	6-5
7-1 MALElementStreamFactory ‘registerFactoryClass’ Parameters .....	7-2
7-2 MALElementStreamFactory ‘deregisterFactoryClass’ Parameters .....	7-3
7-3 MALElementStreamFactory Creation Parameters .....	7-3
7-4 MALElementStreamFactory ‘init’ Parameters.....	7-5
7-5 MALElementStreamFactory ‘createInputStream’ Parameter .....	7-5
7-6 MALElementStreamFactory ‘createOutputStream’ Parameter.....	7-6
7-7 MALElementStreamFactory ‘encode’ Parameters.....	7-7
7-8 MALElementInputStream ‘readElement’ Parameters.....	7-8
7-9 MALElementOutputStream ‘writeElement’ Parameters.....	7-9
7-10 MALEncodingContext Attributes .....	7-11
C-1 JavaBindingNamespace Initial Values .....	C-3



## 1 INTRODUCTION

### 1.1 PURPOSE OF THIS RECOMMENDED PRACTICE

This Recommended Practice defines a Java API for the Mission Operations (MO) Message Abstraction Layer (MAL) specified in reference [1].

### 1.2 SCOPE

The scope of this Recommended Practice is the definition of all concepts and terms that establish a Java API for consuming and providing MO services on top of the MAL. The MAL Java API is intended to maximize the portability of the MO components across various underlying MAL implementations and transport protocols.

### 1.3 APPLICABILITY

This Recommended Practice serves as a specification of a Java API providing all the concepts defined by the MAL, in particular the interaction patterns, the access control and transport interfaces.

The API supports version 1 of the MAL as specified in reference [1].

The API depends on Java 5.

### 1.4 RATIONALE

The goal of this Recommended Practice is to document how to develop and utilize MAL-based services using Java (reference [2]).

Another objective is to create a guide for promoting portability between various software packages implementing the MAL Java API and applications using the MAL Java API.

### 1.5 DOCUMENT STRUCTURE

This Recommended Practice is organized as follows:

- a) section 1 provides purpose and scope, and lists definitions, conventions, and references used throughout the Recommended Practice;
- b) section 2 gives an overview of the API;
- c) section 3 defines the MAL API that represents the MAL service interface;
- d) section 4 defines how a MAL service specification is mapped to Java;
- e) section 5 defines the transport API that represents the MAL transport interface;