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EiffelRSS

SYNDICATION Developer Guide

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inf | Informatik
Computer Science

Abstract

SYNDICATION is the main cluster of EiffelRSS with a feed object model and classes to load / write feeds. It is divided into three subclusters.

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Part I

INTERFACE

Chapter 1

Overview

`INTERFACE` is the sub-cluster of syndication with all the classes a developer needs to use the library. There are classes to read into and write from a `FEED`, a `FEED_MANAGER` to administrate a list of `FEED`s, and a factory class which makes it easy to create all necessary objects.

See figure 1.1 for an overview of the cluster.

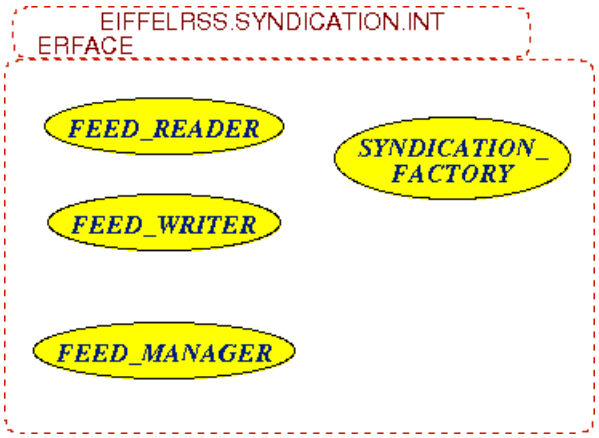

Figure 1.1: BON diagram of cluster `INTERFACE`

Chapter 2

Class SYNDICATION_FACTORY

2.1 Overview

`SYNDICATION_FACTORY` provides an easy way to create objects of classes from the cluster `SYNDICATION`.

2.2 Usage

```
class USAGE_EXAMPLE

create
  make

feature -- Initialization

  make is
      -- Creation procedure.
    do
      create syndication

      feature := syndication.new_feature ("EiffelRSS", create
      →{HTTP_URL}.make ("http://eiffelrss.berlios.de/"),
      → "EiffelRSS news")

      item := syndication.new_item (channel, "Version 23
      → released!", create {HTTP_URL}.make ("http://
      →eiffelrss.berlios.de/Main/News"), "Version 23 of
      →EiffelRSS got release today. Happy syndicating!")
```

```
        feed.add_item (item)
    end

feature -- Arguments

  syndication: SYNDICATION_FACTORY
      -- Syndication factory object

  feed: FEED
      -- Feed object

  item: ITEM
      -- Item object

end -- class USAGE_EXAMPLE
```

2.3 Features

2.3.1 READER factory

new_reader_from_url

```
new_reader_from_url (a_url: STRING): FEED_READER
  -- Create with 'a_url' as source of feed
```

2.3.2 WRITER factory

new_writer_from_feed

```
new_writer_from_feed (a_feed: FEED): FEED_WRITER
  -- Create a writer object for the feed 'a_feed'
```

2.3.3 FEED_MANAGER factory

new_feed_manager

```
new_feed_manager: FEED_MANAGER
  -- Create a new feed manager with default refresh ↘
  →period '30'
```

new_feed_manager_custom

```
new_feed_manager_custom (a_refresh_period: INTEGER): ↘
→FEED_MANAGER
  -- Create a new feed manager with default refresh ↘
  →period 'a_refresh_period'
```

2.3.4 FEED factory

new_feed

```
new_feed (a_title: STRING; a_link: URL; a_description: ↘
→STRING): FEED
  -- Create a feed with title, link and description
```

new_feed_from_channel

```
new_feed_from_channel (a_channel: CHANNEL): FEED
  -- Create a new feed from an existing channel
```

2.3.5 CHANNEL factory

new_channel

```
new_channel (a_title: STRING; a_link: URL; a_description↘
→: STRING): CHANNEL
  -- Create a channel with title, link and description
```

new_channel_cloud

```
new_channel_cloud (a_domain: STRING; a_port: INTEGER; ↘
→a_path: STRING; a_register_procedure: STRING; ↘
→a_protocol: STRING): CHANNEL_CLOUD
  -- Create a channel cloud with domain, port, path, ↘
  →register procedure and protocol
```

new_channel_image

```
new_channel_image (a_url: URL; a_title: STRING; a_link: URL): CHANNEL_IMAGE
  -- Create a channel image with URL, title, and link
```

new_channel_text_input

```
new_channel_text_input (a_title: STRING; a_description: STRING; a_name: STRING; a_link: URL): CHANNEL_TEXT_INPUT
  -- Create a channel text input with title, description, name and link
```

2.3.6 ITEM factory

new_item

```
new_item (a_channel: CHANNEL; a_title: STRING; a_link: URL; a_description: STRING): ITEM
  -- Create an item with title, link and description
```

new_item_with_title

```
new_item_with_title (a_channel: CHANNEL; a_title: STRING): ITEM
  -- Create an item with title
```

new_item_with_description

```
new_item_with_description (a_channel: CHANNEL; a_description: STRING): ITEM
  -- Create an item with description
```

new_item_enclosure

```
new_item_enclosure (a_url: URL; a_length: INTEGER; a_type: STRING): ITEM_ENCLOSURE
  -- Create an item enclosure
```

new_item_guid

```
new_item_guid (a_guid: STRING): ITEM_GUID
  -- Create an item guid with 'is_perma_link' set to
  -False
```

new_item_guid_perma_link

```
new_item_guid_perma_link (a_guid: STRING): ITEM_GUID
  -- Create an item guid with 'is_perma_link' set to
  -True
```

new_item_source

```
new_item_source (a_name: STRING; a_url: URL):
-ITEM_SOURCE
  -- Create an item source
```

2.3.7 CATEGORY factory

new_category

```
new_category: CATEGORY
  -- Create a category with title '[unnamed category]')
```

new_category_with_title

```
new_category_with_title (a_title: STRING): CATEGORY
  -- Create a category with title 'a_title'
```

new_category_with_title_domain

```
new_category_with_title_domain (a_title: STRING;
-a_domain: URL): CATEGORY
  -- Create a category with title 'a_title' and domain '
  -a_domain'
```

Chapter 3

Class FEED_MANAGER

3.1 Overview

FEED_MANAGER is a class to manage feeds. It provides features to add, remove and refresh feeds.

See figure 3.1 for an overview of the class.

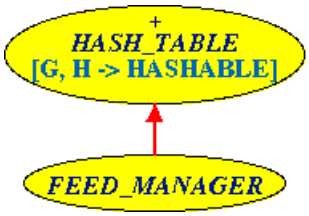

Figure 3.1: BON diagram of class FEED_MANAGER

3.2 Usage

```
class
  FEED_MANAGER_EXAMPLE

create
  make

feature -- Initialization

  make is
      -- Creation procedure.
    do
      -- Create a simple feed
```

```
        create feed.make ("EiffelRSS", create {HTTP_URL}.↘
        →make ("http://eiffelrss.berlios.de"), "EiffelRSS ↘
        →news")
        feed.set_refresh_period (15)
        feed.set_last_updated (create {DATE_TIME}.make_now↘
        →)

        -- Add some simple items, use 'feed.↘
        →last_added_item' or directly create an item for ↘
        →finer control
        feed.new_item ("Version 23 released!", create {↘
        →HTTP_URL}.make ("http://eiffelrss.berlios.de/Main↘
        →/News"), "Version 23 of EiffelRSS got release ↘
        →today. Happy syndicating!")

        feed.new_item ("EiffelRSS wins award", create {↘
        →HTTP_URL}.make ("http://eiffelrss.berlios.de/Main↘
        →/Awards"), "EiffelRSS has been awarded by ISE as ↘
        →best syndication software written in Eiffel. For ↘
        →more info see award-winning pages: http://↘
        →eiffelrss.berlios.de")

        -- Create feed manager
        create feed_manager.make
        feed_manager.add (feed, "http://eiffelrss.berlios.↘
        →de/Main/AllRecentChanges?action=rss")
        feed_manager.refresh_all
    end

feature -- Arguments

  feed: FEED
      -- Example feed

  feed_manager: FEED_MANAGER
      -- Feed manager

end -- class FEED_MANAGER_EXAMPLE
```

3.3 Features

3.3.1 Initialization

make

```
make
    -- Create a new feed manager with default refresh
    period '30'
```

make_custom

```
make_custom (a_refresh_period: INTEGER)
    -- Create a new feed manager with default refresh
    period 'a_refresh_period'
```

3.3.2 Access

default_refresh_period

```
default_refresh_period: INTEGER
    -- Default refresh period in minutes
```

last_added_feed

```
last_added_feed: FEED
    -- feed that was last added
```

feed_addresses

```
feed_addresses: LINKED_LIST[STRING]
    -- Returns a sortable list representation of the
    feeds saved in FEED_MANAGER
```

feed_links

```
feed_links: LINKED_LIST[STRING]
    -- Returns a sortable list representation of the
    feeds saved in FEED_MANAGER
```

3.3.3 Setter

set_default_refresh_period

```
set_default_refresh_period (a_refresh_period: INTEGER)
    -- Set refresh periode in minutes
```

3.3.4 Element change

add

```
add (feed: FEED; url: STRING)
    -- Add 'feed'
```

add_from_url

```
add_from_url (url: STRING)
    -- Add feed with URL 'url'
```

3.3.5 Refresh

refresh

```
refresh (url: STRING)
    -- Refresh feed with URL 'url', if the feed is ↘
    →outdated
```

refresh_force

```
refresh_force (url: STRING)
    -- Refresh feed with URL 'url', even if the feed is ↘
    →not outdated
```

refresh_all

```
refresh_all
    -- Refresh all feeds, if they are outdated
```

refresh_all_force

```
refresh_all_force
    -- Refresh all feeds, even if they are not outdated
```

3.3.6 Conversion

list_representation

```
list_representation: SORTABLE_TWO_WAY_LIST[FEED]
    -- Returns a sortable list representation of the
    →feeds saved in FEED_MANAGER
```

3.3.7 Conversion (sort)

sorted_by_last_updated

```
sorted_by_last_updated: SORTABLE_TWO_WAY_LIST[FEED]
    -- Returns a sorted list representation of the feeds
    →, sorted by 'last_updated'
```

sorted_by_title

```
sorted_by_title: SORTABLE_TWO_WAY_LIST[FEED]
    -- Returns a sorted list representation of the feeds
    →, sorted by 'title'
```

sorted_by_link

```
sorted_by_link: SORTABLE_TWO_WAY_LIST[FEED]
    -- Returns a sorted list representation of the feeds
    →, sorted by 'link'
```

sorted_by_description

```
sorted_by_description: SORTABLE_TWO_WAY_LIST[FEED]
    -- Returns a sorted list representation of the feeds
    →, sorted by 'description'
```

reverse_sorted_by_last_updated

```
reverse_sorted_by_last_updated: SORTABLE_TWO_WAY_LIST[
→FEED]
    -- Returns a sorted list representation of the feeds
    →, reverse sorted by 'last_updated'
```

reverse_sorted_by_title

```
reverse_sorted_by_title: SORTABLE_TWO_WAY_LIST[FEED]
    -- Returns a sorted list representation of the feeds
    →, reverse sorted by 'title'
```

reverse_sorted_by_link

```
reverse_sorted_by_link: SORTABLE_TWO_WAY_LIST[FEED]
    -- Returns a sorted list representation of the feeds
    →, reverse sorted by 'link'
```

reverse_sorted_by_description

```
reverse_sorted_by_description: SORTABLE_TWO_WAY_LIST[
→FEED]
    -- Returns a sorted list representation of the feeds
    →, reverse sorted by 'description'
```

Chapter 4

Class FEED_READER

4.1 Overview

FEED_READER is a helper class which manages everything to load a feed. It converts the data to an XML document object, detects the format of the feed and uses the according reader object to convert the XML document into a FEED object.

See figure 4.1 for an overview of the class.

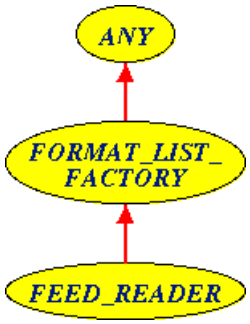

Figure 4.1: BON diagram of class FEED_READER

4.2 Usage

```
class
  READER_EXAMPLE

create
  make

feature -- Initialization
```

```
  make is
      -- Creation procedure.
    local
      location: STRING
      reader: FEED_READER
      feed: FEED
    do
      -- Get a feed location from the user
      io.put_string ("Enter an URL: ")
      io.read_line

      location := io.last_string.twin

      -- Create the reader
      create reader.make_url (location)

      -- Get the feed
      feed := reader.read

      -- Print feed
      io.put_string ("%NReceived feed:%N")
      io.put_string ("==============%N%N%N")
      io.put_string (feed.to_string)
    end

end -- class READER_EXAMPLE
```

4.3 Features

4.3.1 Initialization

make_url

```
make_url (a_url: STRING)
  -- Create with 'a_url' as source of feed
```

4.3.2 Basic operations

read

```
read: FEED
  -- Load the data from the given url into a FEED
```

Chapter 5

Class FEED_WRITER

5.1 Overview

FEED_WRITER is a helper class which manages everything to write a feed. It converts the data from an existing FEED object into an XML document object and saves it into a local file.

5.2 Usage

```
class
  WRITER_EXAMPLE

create
  make

feature -- Initialization

  make is
      -- Creation procedure.
  local
      feed: FEED
      writer: FEED_WRITER
  do
      -- Create a simple feed
      create feed.make ("EiffelRSS", create {HTTP_URL}.↘
      →make ("http://eiffelrss.berlios.de/Main/↘
      →AllRecentChanges?action=rss"), "EiffelRSS news")

      -- Add some simple items
      feed.new_item ("Version 23 released!", create {↘
      →HTTP_URL}.make ("http://eiffelrss.berlios.de/Main↘
```

```
        /News"), "Version 23 of EiffelRSS got release
        today. Happy syndicating!")
        feed.new_item ("Microsoft uses EiffelRSS", create
        {HTTP_URL}.make ("http://eiffelrss.berlios.de/
        Main/WhoUsesEiffelRSS"), "Microsoft announced in
        a press release today that they will use
        EiffelRSS to syndicate news on their website.")
        feed.new_item ("EiffelRSS wins award", create {
        HTTP_URL}.make ("http://eiffelrss.berlios.de/Main
        /Awards"), "EiffelRSS has been awarded by ISE as
        best syndication software written in Eiffel. For
        more info see award-winning pages: http://
        eiffelrss.berlios.de")

        -- Write feed to file
        create writer.make_feed (feed)
        writer.write ("example.xml", "RSS 2.0")
    end

end -- class WRITER_EXAMPLE
```

5.3 Features

5.3.1 Initialization

make_feed

```
make_feed (a_feed: FEED) is
    -- Create a writer object for the feed 'a_feed'
```

5.3.2 Basic operations

write

```
write (a_filename, a_format: STRING) is
    -- Write the feed to a local file with 'a_filename' in
    the format 'a_format'
    -- You can enumerate all available formats with
    FORMAT_LIST (see FORMATS)
```

Part II

FEED

Chapter 6

Overview

FEED is the central datastructure of EiffelRSS. It defines an abstract syndication feed.

See figure 6.1 for an overview of the cluster.

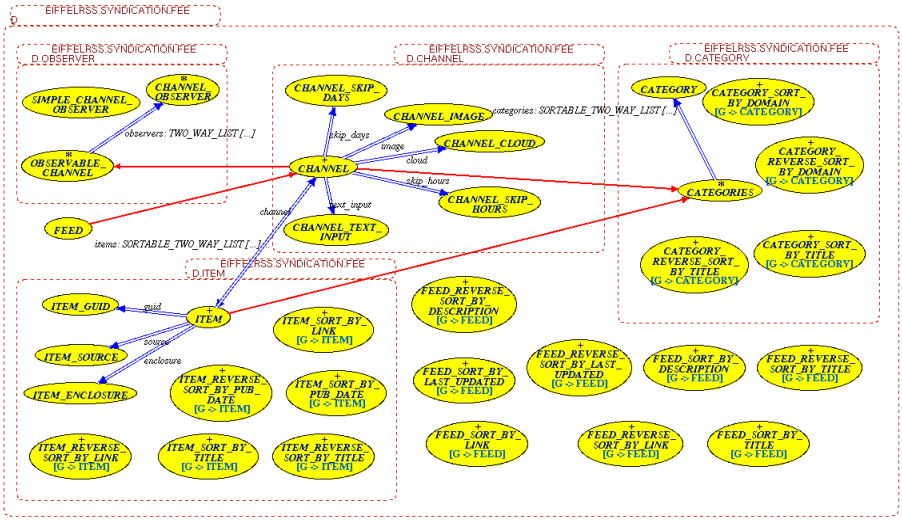

Figure 6.1: BON diagram of cluster FEED

Chapter 7

Usage

```
class
  FEED_EXAMPLE

create
  make

feature -- Initialization

  make is
      -- Creation procedure.
    do
      -- Create a simple feed with some categories
      create feed.make ("EiffelRSS", create {HTTP_URL}.
      →make ("http://eiffelrss.berlios.de"), "EiffelRSS
      →news")
      feed.add_category (create {CATEGORY}.make_title ("
      →RSS"))
      feed.add_category (create {CATEGORY}.make_title ("
      →Programming"))
      feed.add_category (create {CATEGORY}.make_title ("
      →Eiffel"))

      -- Add a cloud to feed
      feed.create_cloud ("eiffelrss.berlios.de", 80, "/
      →RPC2", "xmlStorageSystem.rssPleaseNotify", "xml-
      →rpc")

      -- Add an image to feed
      feed.create_image (create {HTTP_URL}.make ("http
      →://eiffelrss.berlios.de/logo.png"), "EiffelRSS",
      →create {HTTP_URL}.make ("http://eiffelrss.berlios
      →.de"))
```

```
        -- Add a text input field to feed
        feed.create_text_input ("Search", "Search award-winning pages", "search", create {HTTP_URL}.make ("http://eiffelrss.berlios.de/Main/SearchWiki/"))

        -- Add some simple items, use 'feed.last_added_item' or directly create an item for finer control
        feed.new_item ("Version 23 released!", create {HTTP_URL}.make ("http://eiffelrss.berlios.de/Main/News"), "Version 23 of EiffelRSS got release today. Happy syndicating!")
        feed.last_added_item.add_category (create {CATEGORY}.make_title_domain ("News", create {HTTP_URL}.make ("http://eiffelrss.berlios.de/Main/News/")))

        feed.new_item ("EiffelRSS wins award", create {HTTP_URL}.make ("http://eiffelrss.berlios.de/Main/Awards"), "EiffelRSS has been awarded by ISE as best syndication software written in Eiffel. For more info see award-winning pages: http://eiffelrss.berlios.de")
        feed.last_added_item.set_guid (create {ITEM_GUID}.make_perma_link ("http://eiffelrss.berlios.de/newsItem42"))

        -- Print feed
        io.put_string ("Sample feed:%N")
        io.put_string ("============%N%N%N")
        io.put_string (feed.to_string)
    end

feature -- Arguments

  feed: FEED
      -- Example feed

end -- class FEED_EXAMPLE
```

Chapter 8

Class FEED

8.1 Overview

FEED implements an abstract syndication feed.

8.2 Features

FEED inherits from CHANNEL, so all the features of CHANNEL are availabe as well.

8.2.1 Initialization

make_from_channel

```
make_from_channel (a_channel: CHANNEL)
  -- Create a new feed from an existing channel
```

8.2.2 Access

last_updated

```
last_updated: DATE_TIME
  -- Time the channel was last updated
```

refresh_period

```
refresh_period: INTEGER
  -- Refresh period in minutes
```

8.2.3 Setter

set_channel

```
set_channel (a_channel: CHANNEL)
  -- Set channel
```

set_refresh_period

```
set_refresh_period (a_refresh_period: INTEGER)
  -- Set refresh periode in minutes
```

set_last_updated

```
set_last_updated (date: DATE_TIME)
  -- Set time this channel was last updated
```

8.2.4 Status

has_refresh_period

```
has_refresh_period: BOOLEAN
  -- Is 'refresh_period' set?
```

has_last_updated

```
has_last_updated: BOOLEAN
  -- Is 'last_updated' set?
```

is_outdated

```
is_outdated: BOOLEAN
  -- Is the feed outdated?
```

is_outdated_default

```
is_outdated_default (default_refresh_period: INTEGER) : ↘
→BOOLEAN
  -- Is the feed outdated?
  -- Use either 'refresh_period' or '↘
  →default_refresh_period' to determine
  -- whether the feed is outdated.
```

8.2.5 Basic operations

create_cloud

```
create_cloud (a_domain: STRING; a_port: INTEGER; a_path:↘
→ STRING; a_register_procedure: STRING; a_protocol: ↘
→STRING)
  -- Create and add a cloud
```

create_image

```
create_image (a_url: URL; a_title: STRING; a_link: URL)
  -- Create and add an image with URL, title, and link
```

create_text_input

```
create_text_input (a_title: STRING; a_description: ↘
→STRING; a_name: STRING; a_link: URL)
  -- Create and add a text input with URL, title, and ↘
  →link
```

new_item

```
new_item (a_title: STRING; a_link: URL; a_description: ↘
→STRING)
  -- Create an item with title, link and description
```

8.2.6 Debug

to_string

```
to_string: STRING
  -- Returns a string representation of feed
  -- This feature is especially useful for debugging
```

Chapter 9

Class CHANNEL

9.1 Overview

CHANNEL is a class for abstract syndication channels. It uses the subclasses CHANNEL_CLOUD, CHANNEL_IMAGE and CHANNEL_TEXT_INPUT.

9.2 Features

9.2.1 Initialization

make

```
make (a_title: STRING; a_link: URL; a_description: STRING)
  -- Create a channel with title, link and description
```

9.2.2 Access

title

```
title: STRING
  -- Channel title
```

link

```
link: URL
  -- Channel link
```

description

```
description: STRING
  -- Channel description
```

language

```
language: STRING
  -- Channel language
```

copyright

```
copyright: STRING
  -- Channel copyright
```

managing_editor

```
managing_editor: STRING
  -- Channel managing editor
```

web_master

```
web_master: STRING
  -- Channel web master
```

pub_date

```
pub_date: DATE_TIME
  -- Channel pulication date
```

last_build_date

```
last_build_date: DATE_TIME
  -- Channel last build date
```

feed_generator

```
feed_generator: STRING
  -- Channel feed generator
```

docs

```
docs: URL
  -- Channel docs
```

cloud

```
cloud: CHANNEL_CLOUD
  -- Channel cloud
```

ttl

```
ttl: INTEGER
  -- Channel time to live in minutes
```

image

```
image: CHANNEL_IMAGE
  -- Channel image
```

text_input

```
text_input: CHANNEL_TEXT_INPUT
  -- Channel text input
```

skip_hours

```
skip_hours: CHANNEL_SKIP_HOURS
  -- Channel skip hours
```

skip_days

```
skip_days: CHANNEL_SKIP_DAYS
  -- Channel skip days
```

items

```
items: SORTABLE_TWO_WAY_LIST[ITEM]
  -- Channel items
```

9.2.3 Access (RSS 0.91)

rating

```
rating: STRING
  -- Channel rating
```

9.2.4 Access (RSS 1.0)

items_toc

```
items_toc: TWO_WAY_LIST[URL]
  -- Channel items table of content
```

textinput

```
textinput: URL
  -- Channel textinput URL
```

9.2.5 Access (categories)

categories

```
categories: SORTABLE_TWO_WAY_LIST[CATEGORY]
  -- Categories list containing category items
```

9.2.6 Access (observers)

observers

```
observers: TWO_WAY_LIST[CHANNEL_OBSERVER]
  -- List of subscribed observers
```

9.2.7 Access (metadata)

last_added_item

```
last_added_item: ITEM
  -- The last added channel item
```

9.2.8 Setter

set_title

```
set_title (a_title: STRING)
  -- Set title to 'a_title'
```

set_link

```
set_link (a_link: URL)
  -- Set link to 'a_link'
```

set_description

```
set_description (a_description: STRING)
  -- Set description to 'a_description'
```

set_language

```
set_language (a_language: STRING)
  -- Channel language
```

set_copyright

```
set_copyright (a_copyright: STRING)
  -- Channel copyright
```

set_managing_editor

```
set_managing_editor (a_managing_editor: STRING)
  -- Channel managing editor
```

set_web_master

```
set_web_master (a_web_master: STRING)
  -- Channel web master
```

set_pub_date

```
set_pub_date (date: DATE_TIME)
  -- Channel pulication date
```

set_last_build_date

```
set_last_build_date (date: DATE_TIME)
  -- Channel last build date
```

set_feed_generator

```
set_feed_generator (a_feed_generator: STRING)
  -- Channel feed generator
```

set_docs

```
set_docs (url: URL)
  -- Channel docs
```

set_cloud

```
set_cloud (a_cloud: CHANNEL_CLOUD)
  -- Channel cloud
```

set_ttl

```
set_ttl (a_ttl: INTEGER)
  -- Channel time to live in minutes
```

set_image

```
set_image (an_image: CHANNEL_IMAGE)
  -- Channel image
```

set_text_input

```
set_text_input (a_text_input: CHANNEL_TEXT_INPUT)
  -- Channel text input
```

set_skip_hours

```
set_skip_hours (some_skip_hours: CHANNEL_SKIP_HOURS)
  -- Channel skip hours
```

set_skip_days

```
set_skip_days (some_skip_days: CHANNEL_SKIP_DAYS)
  -- Channel skip days
```

set_items

```
set_items (item_list: like items)
  -- Channel items
```

9.2.9 Setter (RSS 0.91)

set_rating

```
set_rating (rating_value: STRING)
  -- Channel rating
```

9.2.10 Setter (RSS 1.0)

set_items_toc

```
set_items_toc (item_toc_list: like items_toc)
  -- Channel items table of content
```

set_textinput

```
set_textinput (url: URL)
  -- Channel textinput URL
```

9.2.11 Setter (categories)

set_categories

```
set_categories (category_list: like categories)
  -- Set categories with a new category list
```

9.2.12 Setter (observers)

set_observers

```
set_observers (observer_list: like observers)
  -- List of subscribed observers
```

9.2.13 Status

has_language

```
has_language: BOOLEAN
  -- Is 'language' set and non-empty?
```

has_copyright

```
has_copyright: BOOLEAN
  -- Is 'copyright' set and non-empty?
```

has_managing_editor

```
has_managing_editor: BOOLEAN
  -- Is 'managing_editor' set and non-empty?
```

has_web_master

```
has_web_master: BOOLEAN
  -- Is 'web_master' set and non-empty?
```

has_pub_date

```
has_pub_date: BOOLEAN
  -- Is 'pub_date' set?
```

has_last_build_date

```
has_last_build_date: BOOLEAN
  -- Is 'last_build_date' set?
```

has_feed_generator

```
has_feed_generator: BOOLEAN
  -- Is 'feed_generator' set and non-empty?
```

has_docs

```
has_docs: BOOLEAN
  -- Is 'docs' set?
```

has_cloud

```
has_cloud: BOOLEAN
  -- Is 'cloud' set?
```

has_ttl

```
has_ttl: BOOLEAN
  -- Is 'ttl' set?
```

has_image

```
has_image: BOOLEAN
  -- Is 'image' set?
```

has_text_input

```
has_text_input: BOOLEAN
  -- Is 'text_input' set?
```

has_skip_hours

```
has_skip_hours: BOOLEAN
  -- Is 'skip_hours' set?
```

has_skip_days

```
has_skip_days: BOOLEAN
  -- Is 'skip_days' set?
```

has_items

```
has_items: BOOLEAN
  -- Is 'items' set?
```

9.2.14 Status (RSS 0.91)

has_rating

```
has_rating: BOOLEAN
  -- Is 'rating' set and non-empty?
```

9.2.15 Status (RSS 1.0)

has_items_toc

```
has_items_toc: BOOLEAN
  -- Is 'items_toc' set?
```

has_textinput

```
has_textinput: BOOLEAN
  -- Is 'textinput' set?
```

9.2.16 Status (categories)

has_categories

```
has_categories: BOOLEAN
  -- Are there any categories?
```

9.2.17 Status (observers)

has_observers

```
has_observers: BOOLEAN
  -- Is 'observers' set?
```

9.2.18 Status (metadata)

has_last_added_item

```
has_last_added_item: BOOLEAN
  -- Is 'last_added_item' set?
```

9.2.19 Basic operations

add_skip_hour

```
add_skip_hour (skip_hour: INTEGER)
  -- Add a skip hour.
  -- Only 0 <= 'skip_hour' <= 23 is valid
```

remove_skip_hour

```
remove_skip_hour (skip_hour: INTEGER)
  -- Remove a skip hour
```

add_skip_day

```
add_skip_day (skip_day: STRING)
  -- Add a skip day.
  -- 'skip_day' will be added to 'skip_days' with the ↘
  →first letter to upper
  -- and the rest to lower. For example: 'mOnDaY' is ↘
  →added as 'Monday'
```

remove_skip_day

```
remove_skip_day (skip_day: STRING)
  -- Remove a skip day
```

add_item

```
add_item (item: ITEM)
  -- Add an item
```

remove_item

```
remove_item (item: ITEM)
  -- Remove an item
```

9.2.20 Basic operations (RSS 0.91)

9.2.21 Basic operations (RSS 1.0)

add_item_toc

```
add_item_toc (item_toc: URL)
  -- Add an item to the TOC
```

remove_item_toc

```
remove_item_toc (item_toc: URL)
  -- Remove an item from the TOC
```

9.2.22 Basic operations (categories)

add_category

```
add_category (category: CATEGORY)
  -- Add a category item
```

remove_category

```
remove_category (category: CATEGORY)
  -- Remove a category item
```

9.2.23 Basic operations (observers)

add_observer

```
add_observer (an_observer: CHANNEL_OBSERVER)
  -- Add an observer
```

remove_observer

```
remove_observer (an_observer: CHANNEL_OBSERVER)
  -- Remove an observer
```

9.2.24 Sort

sort_items_by_title

```
sort_items_by_title
  -- Sort items by title
```

sort_items_by_pub_date

```
sort_items_by_pub_date
  -- Sort items by publication date
```

sort_items_by_link

```
sort_items_by_link
  -- Sort items by link
```

reverse_sort_items_by_title

```
reverse_sort_items_by_title
  -- Reverse sort items by title
```

reverse_sort_items_by_pub_date

```
reverse_sort_items_by_pub_date
  -- Reverse sort items by publication date
```

reverse_sort_items_by_link

```
reverse_sort_items_by_link
  -- Reverse sort items by link
```

9.2.25 Sort (categories)

sort_categories_by_title

```
sort_categories_by_title
  -- Sort categories by title
```

sort_categories_by_domain

```
sort_categories_by_domain
  -- Sort categories by domain
```

reverse_sort_categories_by_title

```
reverse_sort_categories_by_title
  -- Reverse sort categories by title
```

reverse_sort_categories_by_domain

```
reverse_sort_categories_by_domain
  -- Reverse sort categories by domain
```

9.2.26 Debug

to_string

```
to_string: STRING
  -- Returns a string representation of channel
  -- This feature is especially useful for debugging
```

9.3 Subclass CHANNEL_CLOUD

9.3.1 Initialization

make

```
make (a_domain: STRING; a_port: INTEGER; a_path: STRING;↘
→ a_register_procedure: STRING; a_protocol: STRING)
  -- Create a channel cloud with domain, port, path, ↘
  →register procedure and protocol
```

9.3.2 Access

domain

```
domain: STRING
  -- Domain of the cloud
```

port

```
port: INTEGER
  -- Port of the cloud
```

path

```
path: STRING
  -- Path of the cloud
```

register_procedure

```
register_procedure: STRING
  -- Register procedure of the cloud
```

protocol

```
protocol: STRING
  -- Protocol of the cloud
```

9.3.3 Setter

set_domain

```
set_domain (a_domain: STRING)
  -- Set domain to `a_domain'
```

set_port

```
set_port (a_port: INTEGER)
  -- Set port to `a_port'
```

set_path

```
set_path (a_path: STRING)
  -- Set path to 'a_path'
```

set_register_procedure

```
set_register_procedure (a_register_procedure: STRING)
  -- Set register_procedure to 'a_register_procedure'
```

set_protocol

```
set_protocol (a_protocol: STRING)
  -- Set protocol to 'a_protocol'
```

9.3.4 Debug

to_string

```
to_string: STRING is
  -- Returns a string representation of cloud
  -- This feature is especially useful for debugging
```

9.4 Subclass CHANNEL_IMAGE

9.4.1 Initialization

make

```
make (a_url: URL; a_title: STRING; a_link: URL)
  -- Create a channel image with URL, title, and link
```

9.4.2 Constants

Default_width

```
Default_width: INTEGER is 88
  -- Default width of the image
```

Max_width

```
Max_width: INTEGER is 144
  -- Maximum width of the image
```

9.4.3 Access

url

```
url: URL
  -- URL of the image
```

title

```
title: STRING
  -- Title of the image
```

link

```
link: URL
  -- Link of the image
```

width, height

```
width, height: INTEGER
  -- Width and height of the image
```

description

```
description: STRING
  -- Description of the image
```

9.4.4 Setter

set_url

```
set_url (a_url: URL)
  -- Set url to `a_url'
```

set_title

```
set_title (a_title: STRING)
  -- Set title to 'a_title'
```

set_link

```
set_link (a_link: URL)
  -- Set link to 'a_link'
```

set_width

```
set_width (a_width: INTEGER)
  -- Set width to 'a_width'
```

set_height

```
set_height (a_height: INTEGER)
  -- Set heigh to 'a_heigh'
```

set_description

```
set_description (a_description: STRING)
  -- Set  to 'a_description'
```

9.4.5 Status

has_width

```
has_width: BOOLEAN
  -- Is 'width' set?
```

has_height

```
has_height: BOOLEAN
  -- Is 'height' set?
```

has_description

```
has_description: BOOLEAN
  -- Is 'description' set and non-empty?
```

9.4.6 Debug

to_string

```
to_string: STRING
  -- Returns a string representation of image
  -- This feature is especially useful for debugging
```

9.5 Subclass CHANNEL_TEXT_INPUT

9.5.1 Initialization

make

```
make (a_title: STRING; a_description: STRING; a_name: STRING; a_link: URL)
  -- Create a channel text input with title, description, name and link
```

9.5.2 Access

title

```
title: STRING
  -- Title of the text input
```

description

```
description: STRING
  -- Description of the text input
```

name

```
name: STRING
  -- Name of the text input
```

link

```
link: URL
  -- Link of the text input
```

9.5.3 Setter

set_title

```
set_title (a_title: STRING)
  -- Set title to `a_title'
```

set_description

```
set_description (a_description: STRING)
  -- Set description to `a_description'
```

set_name

```
set_name (a_name: STRING)
  -- Set name to `a_name'
```

set_link

```
set_link (a_link: URL)
  -- Set link to `a_link'
```

9.5.4 Debug

to_string

```
to_string: STRING is
  -- Returns a string representation of text input
  -- This feature is especially useful for debugging
```

Chapter 10

Class ITEM

10.1 Overview

ITEM is a class for feed items. It uses the subclasses ITEM_ENCLOSURE, ITEM_GUID and ITEM_SOURCE.

10.2 Features

10.2.1 Initialization

make

```
make (a_channel: CHANNEL; a_title: STRING; a_link: URL; ↘
→a_description: STRING)
  -- Create an item with title, link and description
```

make_title

```
make_title (a_channel: CHANNEL; a_title: STRING)
  -- Create an item with title
```

make_description

```
make_description (a_channel: CHANNEL; a_description: ↘
→STRING)
  -- Create an item with description
```

10.2.2 Access

channel

```
channel: CHANNEL
  -- Backlink to the corresponding channel
```

title

```
title: STRING
  -- Item title
```

link

```
link: URL
  -- Item link
```

description

```
description: STRING
  -- Item description
```

author

```
author: STRING
  -- Item author
```

comments

```
comments: URL
  -- Item comment URL
```

enclosure

```
enclosure: ITEM_ENCLOSURE
  -- Item enclosure
```

guid

```
guid: ITEM_GUID
  -- Item globally unique identifier (guid)
```

pub_date

```
pub_date: DATE_TIME
  -- Item publication date
```

source

```
source: ITEM_SOURCE
  -- Item source
```

10.2.3 Access (categories)

categories

```
categories: SORTABLE_TWO_WAY_LIST[CATEGORY]
  -- Categories list containing category items
```

10.2.4 Access (metadata)

date_found

```
date_found: DATE_TIME
  -- Item date found
```

is_read

```
is_read: BOOLEAN
  -- Is the item read?
```

10.2.5 Setter

set_channel

```
set_channel (a_channel: CHANNEL)
  -- Set channel to 'a_channel'
```

set_title

```
set_title (a_title: STRING)
  -- Set title to 'a_title'
```

set_link

```
set_link (a_link: URL)
  -- Set link to 'a_link'
```

set_description

```
set_description (a_description: STRING)
  -- Set description to 'a_description'
```

set_author

```
set_author (an_author: STRING)
  -- Set author to 'an_author'
```

set_comments

```
set_comments (url: URL)
  -- Set comments to 'url'
```

set_enclosure

```
set_enclosure (an_enclosure: ITEM_ENCLOSURE)
  -- Set enclosure to 'an_enclosure'
```

set_guid

```
set_guid (a_guid: ITEM_GUID)
  -- Set guid to 'a_guid'
```

set_pub_date

```
set_pub_date (date: DATE_TIME)
  -- Set publication date to 'date'
```

set_source

```
set_source (a_source: ITEM_SOURCE)
  -- Set source to 'a_source'
```

10.2.6 Setter (categories)

set_categories

```
set_categories (category_list: like categories)
  -- Set categories with a new category list
```

10.2.7 Setter (metadata)

set_date_found

```
set_date_found (date: DATE_TIME)
  -- Set date_found to 'date'
```

set_read

```
set_read (value: BOOLEAN)
  -- Set is_read to 'value'
```

10.2.8 Status

has_title

```
has_title: BOOLEAN
  -- Is 'title' set and non-empty?
```

has_link

```
has_link: BOOLEAN
  -- Is 'link' set?
```

has_description

```
has_description: BOOLEAN
  -- Is 'description' set and non-empty?
```

has_author

```
has_author: BOOLEAN
  -- Is 'author' set and non-empty?
```

has_comments

```
has_comments: BOOLEAN
  -- Is 'comments' set?
```

has_enclosure

```
has_enclosure: BOOLEAN
  -- Is 'enclosure' set?
```

has_guid

```
has_guid: BOOLEAN
  -- Is 'guid' set?
```

has_pub_date

```
has_pub_date: BOOLEAN
  -- Is 'pub_date' set?
```

has_source

```
has_source: BOOLEAN
  -- Is 'source' set?
```

10.2.9 Status (categories)

has_categories

```
has_categories: BOOLEAN
  -- Are there any categories?
```

10.2.10 Basic operations (categories)

add_category

```
add_category (category: CATEGORY)
  -- Add a category item
```

remove_category

```
remove_category (category: CATEGORY)
  -- Remove a category item
```

10.2.11 Sort (categories)

sort_categories_by_title

```
sort_categories_by_title
  -- Sort categories by title
```

sort_categories_by_domain

```
sort_categories_by_domain
  -- Sort categories by domain
```

reverse_sort_categories_by_title

```
reverse_sort_categories_by_title
  -- Reverse sort categories by title
```

reverse_sort_categories_by_domain

```
reverse_sort_categories_by_domain
  -- Reverse sort categories by domain
```

10.2.12 Debug

to_string

```
to_string: STRING
  -- Returns a string representation of item
  -- This feature is especially useful for debugging
```

10.3 Subclass ITEM_ENCLOSURE

10.3.1 Initialization

make

```
make (a_url: URL; a_length: INTEGER; a_type: STRING)
  -- Create an item enclosure
```

10.3.2 Access

url

```
url: URL
  -- URL of the enclosure
```

length

```
length: INTEGER
  -- Length in bytes of the enclosure
```

type

```
type: STRING
  -- MIME type of the enclosure
```

10.3.3 Setter

set_url

```
set_url (a_url: URL)
  -- Set the URL to 'url'
```

set_length

```
set_length (a_length: INTEGER)
  -- Set the length to 'a_length'
```

set_type

```
set_type (a_type: STRING)
  -- Set the MIME type to 'a_type'
```

10.3.4 Debug

to_string

```
to_string: STRING
  -- Returns a string representation of enclosure
  -- This feature is especially useful for debugging
```

10.4 Subclass ITEM_GUID

10.4.1 Initialization

make

```
make (a_guid: STRING)
  -- Create an item guid with 'is_perma_link' set to
  -False
```

make_perma_link

```
make_perma_link (a_guid: STRING)
  -- Create an item guid with 'is_perma_link' set to
  -True
```

10.4.2 Access

guid

```
guid: STRING
  -- String representing a globally unique identifier (
  -guid)
```

is_perma_link

```
is_perma_link: BOOLEAN
  -- Is this guid a perma link?
```

10.4.3 Setter

set_guid

```
set_guid (a_guid: STRING)
  -- Set guid to 'a_guid'
```

set_perma_link

```
set_perma_link (value: BOOLEAN)
  -- Set is_perma_link to 'value'
```

10.4.4 Debug

to_string

```
to_string: STRING
  -- Returns a string representation of guid
  -- This feature is especially useful for debugging
```

10.5 Subclass ITEM_SOURCE

10.5.1 Initialization

make

```
make (a_name: STRING; a_url: URL)
  -- Create an item source
```

10.5.2 Access

name

```
name: STRING
  -- Name of the item source
```

url

```
url: URL
  -- URL of the item source
```

10.5.3 Setter

set_name

```
set_name (a_name: STRING)
  -- Set name to 'a_name'
```

set_url

```
set_url (a_url: URL)
  -- Set url to 'a_url'
```

10.5.4 Debug

to_string

```
to_string: STRING
  -- Returns a string representation of source
  -- This feature is especially useful for debugging
```

Chapter 11

Class CATEGORY

11.1 Overview

CATEGORY is a class for channel and item categories.

11.2 Features

11.2.1 Initialization

make

```
make
  -- Create a category with title '[unnamed category]'
```

make_title

```
make_title (a_title: STRING)
  -- Create a category with title 'a_title'
```

make_title_domain

```
make_title_domain (a_title: STRING; a_domain: URL)
  -- Create a category with title 'a_title' and domain '
  →a_domain'
```

11.2.2 Access

title

```
title: STRING
  -- Category title
```

domain

```
domain: URL
  -- Category domain
```

11.2.3 Setter

set_title

```
set_title (a_title: STRING)
  -- Set title to to 'a_title'
```

set_domain

```
set_domain (url: URL)
  -- Set domain to to 'url'
```

11.2.4 Status

has_domain

```
has_domain: BOOLEAN
  -- Is 'domain' set?
```

11.2.5 Debug

to_string

```
to_string: STRING
  -- Returns a string representation of category
  -- This feature is especially useful for debugging
```

Chapter 12

Observers

12.1 Overview

FEED is observable. This means it is of type OBSERVABLE_CHANNEL and has features to notify subscribed observers in the case of updates.

CHANNEL_OBSERVER is a deferred class which observers have to implement to observe a feed. There is also a simple observer, SIMPLE_CHANNEL_OBSERVER which you can use as a starting point for your own observer classes.

12.2 Class OBSERVABLE_CHANNEL

12.2.1 Access

observers

```
observers: TWO_WAY_LIST[CHANNEL_OBSERVER]
  -- List of subscribed observers
```

12.2.2 Setter

set_observers

```
set_observers (observer_list: like observers)
  -- List of subscribed observers
```

12.2.3 Status

has_observers

```
has_observers: BOOLEAN
  -- Is 'observers' set?
```

12.2.4 Basic operations

add_observer

```
add_observer (an_observer: CHANNEL_OBSERVER)
  -- Add an observer
```

remove_observer

```
remove_observer (an_observer: CHANNEL_OBSERVER)
  -- Remove an observer
```

12.3 Class CHANNEL_OBSERVER

12.3.1 Observer

item_added

```
item_added (new_item: ITEM)
  -- Is called when a new item is added to this channel
deferred
```

channel_updated

```
channel_updated (channel: CHANNEL)
  -- Is called when a new channel is added
deferred
```

12.4 Class SIMPLE_CHANNEL_OBSERVER

12.4.1 Access

added_item

```
added_item: ITEM
  -- The newly added item
```

updated_channel

```
updated_channel: CHANNEL
  -- The newly updated channel
```

12.4.2 Observer

item_added

```
item_added (new_item: ITEM)
  -- Is called when a new item is added to this channel
```

channel_updated

```
channel_updated (channel: CHANNEL)
  -- Is called when a new channel is added
```

Part III

FORMATS

Chapter 13

Overview

FORMATS contains classes to manage the different formats and the actual implementation of these formats.

Each format has a format, a writer and a reader object and a unique name. It also provides a feature which can detect if the format can read a certain XML document.

There is a special format called "Error" which is used whenever an error occurs.

See figure 13.1 for an overview of the cluster.

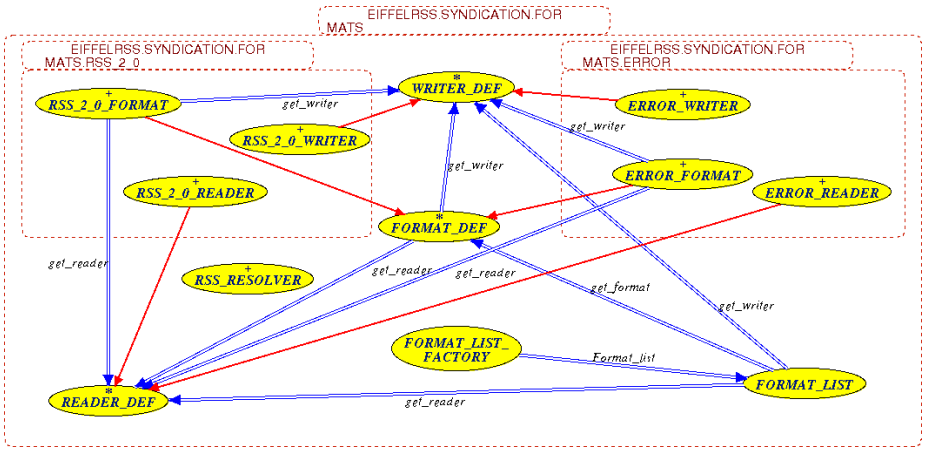

Figure 13.1: BON diagram of cluster FORMATS

Chapter 14

Management: Class FORMAT_LIST

14.1 Overview

FORMAT_LIST manages the different formats.

14.2 Usage

FORMAT_LIST uses a singleton pattern, so to actually use the format list your class has to inherit from FORMAT_LIST_FACTORY.

FORMAT_LIST inherits from LINKED_LIST, so all the features of LINKED_LIST are availabe as well.

14.3 Features

14.3.1 Initialization

make_list

```
make_list
  -- Create the object and add the default formats
```

14.3.2 Access

get_reader

```
get_reader (a_name: STRING): READER_DEF
  -- Get the reader object for the name 'a_name'
```

get_writer

```
get_writer (a_name: STRING): WRITER_DEF
  -- Get the writer object for the name 'a_name'
```

get_format

```
get_format (a_name: STRING): FORMAT_DEF
  -- Get the format object for the name 'a_name'
```

14.3.3 Detection

detect_format

```
detect_format (a_document: XM_DOCUMENT): STRING
  -- Get the format name for 'a_document'
```

Chapter 15

Format implementations

15.1 Addding a new format

Adding a new format to EiffelRSS? is very easy. You have to provide three objects which inherit from the deferred base classes `FORMAT_DEF`, `READER_DEF` and `WRITER_DEF`. If you only want to implement a reader or a writer, you can return `ERROR_WRITER` respectively `ERROR_READER` for the other feature.

To actually add the format to the library, you have to extend `FORMAT_LIST` with an object of the format class.

15.2 Base classes

15.2.1 FORMAT_DEF

get_reader

```
get_reader: READER_DEF
  -- Return a reader object
deferred
```

get_writer

```
get_writer: WRITER_DEF
  -- Return a writer object
deferred
```

get_name

```
get_name: STRING
  -- Return the format name
deferred
```

is_of_format

```
is_of_format (a_document: XM_DOCUMENT): BOOLEAN
  -- Is this document a feed of our type?
```

15.2.2 READER_DEF

read

```
read (a_document: XM_DOCUMENT): FEED
  -- Parse the document and return a feed
deferred
```

get_name

```
get_name: STRING
  -- Return a string with the format name
deferred
```

read_or_default_element

```
read_or_default_element (a_element: XM_ELEMENT; ↘
→default_value: STRING): STRING
  -- Read the text of 'a_element' or use 'default_value'↘
  → if 'a_element' is Void or empty
```

read_or_default_attribute

```
read_or_default_attribute (a_attribute: XM_ATTRIBUTE; ↘
→default_value: STRING): STRING
  -- Read the value of 'a_attribute' or use '↘
  →default_value' if 'a_element' is Void or empty
```

valid_element_text

```
valid_element_text (an_element: XM_ELEMENT; a_name: ↘
→STRING): BOOLEAN
  -- Has the subelement 'a_name' of 'an_element' text?
```

read_date

```
read_date (a_string: STRING): DATE_TIME
  -- Convert an RFC 822 date string to a DATE_TIME ↘
  →object
```

15.2.3 WRITER_DEF

get_name

```
get_name: STRING
  -- Return a string with the format name
deferred
```

writer

```
write (a_feed: FEED): XM_DOCUMENT
  -- Export 'a_feed' into an xml document
deferred
```

15.3 Built-in formats

15.3.1 RSS 2.0

`RSS_2_0_FORMAT` is an example implementation of the RSS 2.0 standard. It reads almost all the possible data and has a very basic writer.

15.3.2 Error

`ERROR_FORMAT` is a special format which is used whenever an error occurs. This removes a lot of sources of errors because the library can ensure that the reader and writer objects are never `Void`.

`ERROR_READER` returns a generated feed which has one item with the error message as description.