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## **ACAP Bookmarks Dataset Class**

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A version of this draft document is intended for submission to the RFC editor as a Proposed Standard for the Internet Community. Discussion and suggestions for improvement are requested.

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## Table of Contents

<a href="#">1.</a>	Abstract . . . . .	<a href="#">2</a>
<a href="#">2.</a>	Conventions Used in this Document . . . . .	<a href="#">2</a>
<a href="#">3.</a>	Comments . . . . .	<a href="#">2</a>
<a href="#">4.</a>	ACAP Bookmarks Dataset Class . . . . .	<a href="#">2</a>
<a href="#">4.1.</a>	ACAP Bookmarks Dataset Class Prefix . . . . .	<a href="#">3</a>
<a href="#">4.2.</a>	ACAP Bookmarks Dataset Hierarchy . . . . .	<a href="#">3</a>
<a href="#">5.</a>	Recommended ACAP Bookmarks Dataset Attributes . . . . .	<a href="#">3</a>
<a href="#">5.1.</a>	Basic Attributes . . . . .	<a href="#">3</a>
<a href="#">5.2.</a>	Specific Attributes . . . . .	<a href="#">4</a>
<a href="#">6.</a>	Common ABNF . . . . .	<a href="#">5</a>
<a href="#">7.</a>	Examples . . . . .	<a href="#">6</a>
<a href="#">8.</a>	References . . . . .	<a href="#">7</a>
<a href="#">9.</a>	Security Considerations . . . . .	<a href="#">7</a>
<a href="#">10.</a>	Acknowledgments . . . . .	<a href="#">7</a>
<a href="#">11.</a>	Author's Address . . . . .	<a href="#">7</a>
<a href="#">12.</a>	Full Copyright Statement . . . . .	<a href="#">8</a>

## [1.](#) Abstract

Storing URLs [[URL](#)] for later access has become common in Internet applications (for example, web browsers, FTP clients); these saved URLs have become known as bookmarks. It would be desirable to access one's bookmarks from multiple clients and multiple machines.

The Application Configuration Access Protocol [[ACAP](#)] provides an ideal mechanism for storage of bookmarks, providing for ease of coordination and synchronization of bookmarks between diverse applications and systems, as well as for hierarchy, inheritance, and sharing between users.

This specification defines a standard ACAP dataset class for bookmarks.

## [2.](#) Conventions Used in this Document

The key words "MUST", "MUST NOT", "SHOULD", "SHOULD NOT", and "MAY" in this document are to be interpreted as defined in "Key words for use in RFCs to Indicate Requirement Levels" [[KEYWORDS](#)].

## [3.](#) Comments

Public comments can be sent to the IETF ACAP mailing list,

<ietf-acap+@andrew.cmu.edu>. To subscribe, send a message to <ietf-acap-request+@andrew.cmu.edu> with the word SUBSCRIBE as the body. Private comments should be sent to the author.

Gellens	Expires September 2001	[Page 2]Internet
Draft	ACAP Bookmarks Dataset Class	March 2001

#### **4. ACAP Bookmarks Dataset Class**

The ACAP Bookmarks dataset class defines a set of attributes for each bookmark, and provides for bookmark inheritance and hierarchy.

##### **4.1. ACAP Bookmarks Dataset Class Prefix**

Datasets whose names begin with "/bookmarks" are assumed to contain bookmark entries as defined in this specification.

##### **4.2. ACAP Bookmarks Dataset Hierarchy**

Each user may have a hierarchical set of bookmarks. Nested or hierarchical bookmarks (that is, bookmark folders) SHOULD be represented using the ACAP Hierarchy. Any entry in a bookmarks dataset can be a hierarchy node by setting the "subdataset" attribute.

Inheritance is likely to be useful both for inheriting sets of site or group default bookmarks as well as for inheriting user-specific bookmarks when using different machines.

#### **5. Recommended ACAP Bookmarks Dataset Attributes**

A Bookmarks dataset entry MUST have an "entry" attribute. All other attributes are OPTIONAL.

Attributes are specified using Augmented Backus-Naur Form [[ABNF](#)], including the Core Rules. All attributes are single-valued and textual (do not contain binary data) unless otherwise stated.

The ABNF defines the content of the attribute values prior to their encoding as an ACAP string. Clients MUST conform to the syntax when generating these attributes, but MUST NOT assume that the attribute values will conform to this syntax on access. Servers MUST NOT enforce the syntax.

##### **5.1. Basic Attributes**

These attributes are defined in ACAP [[ACAP](#)] and have meaning in all dataset classes. The section describes how they are used in a bookmarks dataset.

#### entry

The "entry" attribute is used to uniquely identify the bookmark. The name MUST be unique, but is not expected to be descriptive, and generally is not suitable for display to users. It is client-defined.

Gellens  
Draft

Expires September 2001  
ACAP Bookmarks Dataset Class

[Page 3]Internet  
March 2001

The "entry" attribute is also used for ordering. When selecting the "entry" attribute for a new bookmark, in addition to uniqueness, the client selects a string which causes the new entry to appear in the desired order, when sorted using the "i;ascii-casemap" comparator [[ACAP](#)]. For example, to insert an entry between "a1" and "a2", "a1a" could be used.

#### subdataset

The "subdataset" attribute indicates that there is a subdataset of this entry. The value of this attribute specifies the actual location of the subdataset, per [[ACAP](#)] [section 3.1.1](#). For the bookmarks dataset, a value of "." is most commonly used for a user's own entries, indicating that the subdataset exists directly beneath this one. However, especially when inheriting bookmarks from group or site collections, the value of this attribute may point to a dataset on the same or a different ACAP server.

## [5.2.](#) Specific Attributes

These attributes are specific to the Bookmarks dataset class.

#### bookmarks.Date.Added

This contains the date and time of the original creation of this entry. The value is expressed in UTC with a timezone offset, indicating the user's local time.

book-date = datetime ;specified in Common ABNF

#### bookmarks.Description

This contains the user-assigned description of the entry, as a series of CRLF-separated lines.

book-description = \*line ;specified in Common ABNF

#### bookmarks.Last.Modified

This contains the date and time of the most recent modification

of the entry. Modification includes any user-initiated action (such as editing the description) but not automatic actions (such as updating the "Last.Visited" attribute). The value is expressed in UTC, with a timezone offset indicating the user's local time.

book-modtime               = datetime ;specified in Common ABNF

#### bookmarks.Last.Visited

This contains the date and time of the most recent access of the location represented by the entry's URL. The value is expressed in UTC, with a timezone offset indicating the user's local time.

book-visit                 = datetime ;specified in Common ABNF

Gellens	Expires September 2001	[Page 4]Internet
Draft	ACAP Bookmarks Dataset Class	March 2001

#### bookmarks.Name

This specifies a descriptive name for the entry. It does not need to be unique.

book-name                 = 1\*(VCHAR / SP)

#### bookmarks.Type

This contains a token describing the type of the entry. The Separator type indicates the entry is separator for display purposes. The Folder type is used for a container or folder (used with ACAP subdatasets). The Alias type is used for an alias entry, in which case the URL is an ACAP URL to an entry in an ACAP Bookmarks dataset. The Link type is used to refer to any type of object, for example, a web page or a file. The Frameset type is used to contain the state of a web page with frames. In this case the URL of the main page is contained in the 'bookmarks.URL' attribute, and the URLs for other frames are contained in subdataset entries.

book-type                 = "separator" / "link" / "alias" / "folder"  
                              "frameset"

#### bookmarks.URL

This contains the URL of the object referred to by this entry. For Link type entries, this can be any type of URL. For Alias type entries, this is an ACAP URL. ACAP URLs are specified in [[ACAP](#)].

book-url                 = url ;defined in [[URL](#)]

## 6. Common ABNF

The following [ABNF] rules are used above.

```
datetime    =  year month day hour minute second timezone
               ;UTC and offset to local time

day          =  2DIGIT

hour         =  2DIGIT

line        =  *(VCHAR / SP) CRLF

minute       =  2DIGIT

month        =  2DIGIT

second       =  2DIGIT

timezone     =  ("+" / "-") 4DIGIT
```

Gellens Expires September 2001 [Page 5]Internet  
Draft ACAP Bookmarks Dataset Class March 2001

```
year        =  4DIGIT
```

## 7. Examples

/~/bookmarks/

```
entry          a23gzk
bookmarks.Date.Added 19840101000001+0800
bookmarks.Description Where I get my worms
bookmarks.Last.Modified 19971114071202+0800
bookmarks.Last.Visited 19980311173545+0800
bookmarks.Name      Fred's Bait and Tackle
bookmarks.Type       link
bookmarks.URL        http://www.freds bait and tackle.fog/

entry          b1799
bookmarks.type   separator

entry          xzyzy
bookmarks.Date.Added 19770612140004+0500
bookmarks.Description This really cool site I stumbled
                      on when looking for something
                      else. It has detailed and easy
                      to follow instructions on how to
                      crush beer cans

bookmarks.Last.Modified 19971231235902+0800
bookmarks.Last.Visited 19980311173510+0800
```

bookmarks.Name	Yip Yap's Helpful HowTo Page
bookmarks.Type	link
bookmarks.URL	<a href="http://stud.cheesy.edu/~jru/">http://stud.cheesy.edu/~jru/</a>
entry	zz99
subdataset	.
bookmarks.Name	Contemporaneous Contemplations
bookmarks.Type	folder

/~/bookmarks/zz99/

entry	a1a1
bookmarks.Date.Added	19990401000002+0800
bookmarks.Description	I laughed so hard beer came out my nose and my then my roommate saw and started laughing and choking
bookmarks.Last.Modified	19990401000002+0800
bookmarks.Last.Visited	19990401000001+0800
bookmarks.Name	Why Beer is Better than ...
bookmarks.Type	link
bookmarks.URL	<a href="http://trash.example.org/~b1ff/beer.html">http://trash.example.org/~b1ff/beer.html</a>
entry	b2b2

Gellens	Expires September 2001	[Page 6]Internet
Draft	ACAP Bookmarks Dataset Class	March 2001

bookmarks.Date.Added	19990401010003+0800
bookmarks.Description	Commencement address delivered by Clinton and Vonnegut to Vassar
bookmarks.Last.Modified	19990401010003+0800
bookmarks.Last.Visited	19990401010000+0800
bookmarks.Name	Clinton and Vonnegut at Vassar
bookmarks.Type	link
bookmarks.URL	<a href="http://april.fools.oaf/vassar-mit">http://april.fools.oaf/vassar-mit</a>

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## **9. Security Considerations**

As with ACAP datasets in general, it is important that access controls are set correctly on Bookmarks datasets. Attributes may contain personal information which should not be disclosed except by explicit owner request.

## **10. Acknowledgments**

Many thanks to the participants of the IETF ACAP working group for their help, comments, and suggestions.

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Gellens	Expires September 2001	[Page 7]Internet
Draft	ACAP Bookmarks Dataset Class	March 2001

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