

# Holos Analytic System Version 8

## Open Olap URI's Explained

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### Overview

Seagate Open OLAP allows Seagate Holos to view data from external data sources such as Hyperion Essbase and Microsoft Decision Support Services. Seagate Open OLAP also allows Seagate Holos to make its data available to applications such as Seagate Info and Microsoft Excel via the Seagate Excel Add-In. In order to identify external data sources, Seagate Open OLAP makes use of URIs or "Uniform Resource Identifiers". These textual strings are used to identify the data source being connected to. However, URIs can appear complicated and unnecessarily difficult, particularly as different data providers require slightly different URI constructs.

This document sets out to remove some of the confusion that can surround URIs. The document first gives a brief overview of the URI scheme for those who are not familiar with it and then works through the syntax of each datasource URI implementation. This document requires the reader to have some understanding of Open OLAP terms and functionality. It is not recommended for anyone who is new to Open OLAP.

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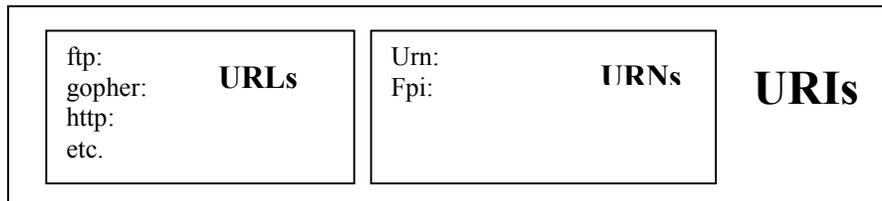
## Introduction

Use the Introduction to explain an issue in further detail, provide background information and outline the Body of the paper.

## What is a URI

Unlike web data formats, where HTML is an important format and web protocols, where HTTP has a similar status, there is only one web naming/addressing technology: URIs.

The basic picture of Uniform Resource terms looks like this:



## Uniform Resource Identifier

The URI is the generic set of all names and addresses that are short strings that refer to resources. They reduce the tedium of "log in to a server, then issue a command ..." to a single click. It is an extensible technology - there are a number of existing address schemes, and more may be incorporated over time.

## Uniform Resource Locator

The URL is a set of URI schemes that have explicit instructions on how to access the resource on the Internet. Think of it as a networked extension of the standard filename concept. Not only can you point to a file in a directory, but that file and that directory can exist on any machine on the network, can be served via any of several different methods, and might not even be something as simple as a file. URLs can also point to queries, documents stored deep within databases, and so on.

Although the terms URI and URL are often used interchangeably, a URL is characterised by "lack of persistence" in the referenced object.

## Uniform Resource Name

The URN is

- a URI that has an institutional commitment to persistence, availability, etc. Note that this sort of URI may also be a URL. See, for example, PURLs.
- a particular scheme which is currently under development in the Internet Engineering Task Force (IETF), which should provide for the resolution using Internet protocols of names which have a greater persistence than that currently associated with Internet host names or organizations. When defined, a URN(2) will be an example of a URI.

## Uniform Resource Citation

The URC is a set of attribute/value pairs describing a resource. Some of the values may be URIs of various kinds. Others may include, for example, authorship, publisher, datatype, date and copyright status. Not normally discussed as a short string, but a set of fields and values with some defined free formatting.

## Seagate URI composition

The Seagate URI string is made up of the following sections:

```
<scheme>://<server path>;<parameters>#<fragment>
```

Note that as per the URI specification, all path delimiters within the URI should be forward slashes.

### Scheme

The scheme demotes the 'protocol' or 'method of access' to the resource named in the URI. There could be independent schemes capable of locating a given resource, just as there could be different methods of accessing such a resource. The scheme component typically encapsulates the protocol being used. Specific examples given in the URL specification document (RFC 1738) include FTP and HTTP, e.g.

```
ftp://myname@host.dom/etc/motd
```

```
http://www.crystaldecisions.com
```

The scheme names used for the Seagate 'OLAP Component Architecture' (OCA) are:

```
osca                via name service
```

```
osca_file           via IOR file
```

```
osca_ior            direct IOR reference
```

where OSCA stands for 'OLAP Server Component Architecture', and IOR stands for 'Interoperable Object Reference'.

These names are usually qualified with IIOP (e.g. `osca:iiop://`), which indicates that Open OLAP is not a first-class protocol, but rather a 'sub-protocol'. IIOP is the transport protocol used by CORBA.

## Server Path

The server path is one of the following, interpreted by the scheme:

- A server name or compound name (path and name) within a namespace served by the local COS name service if the scheme is 'osca'.
- A file name (possibly with path information) if the scheme is 'osca\_file'.
- An Interoperable Object Reference (IOR) if the scheme is 'osca\_ior'.

If a server name is passed *and it is not matched* by an entry in the name service, then the name is used with the following qualifications prefixed, to search for a server:

```
com.crystaldecisions.img.osca.
```

```
com.crystaldecisions.img.hapi.
```

```
com.crystaldecisions.img.
```

Note that these search rules aren't really a part of the URI definition as such. Servers must register fully qualified, globally unique, names. Clients are at liberty to search the namespace with whatever rules they deem appropriate. Seagate Software clients will obviously look for the obvious Seagate Software abbreviations.

## Parameters

The parameters vary from server to server (and are defined for each later in this document). This is the location of the attribute-value embedded URC. Each is in the general form:

```
NAME=VALUE [,NAME=VALUE ...]
```

where values may be optionally double quoted in order to accommodate white space and special characters, or to preserve case. If a double quote is required within a value, it must be paired up. The names are matched case-blind.

## Fragment

If the fragment is present, then the name following this is the dataset fragment (i.e. cube name) that the URI is specifically addressing. If the fragment is not present, the URI only addresses a dataset.

When specifying a URI for a Holos external structure, there is a one-to-one relationship between the external cube and the Holos external structure.

## Creating URIs for each OLAP provider

When declaring an External Structure in Holos on an Open OLAP data source, the syntax is:

```
ALIAS STRUCTURE Holos_structure <NO MODIFY>
  AS EXTERNAL "URI_string"
  NO SELECT
END ALIAS
```

If a correct URI string is used, then the structure "Holos\_structure" would be declared and would be available as any other Holos structure type.

Each OLAP Provider type requires a different set of parameters to fully qualify the dataset required.

To aid consistency some names are pre-defined, and will be used in server implementations wherever possible, and appropriate. These are:

cmd	pass commands to server
database	specify OLAP database
provider	specify OLAP provider (OLE DB for OLAP only)
schema	specify schema (Essbase only)
server	specify underlying data server
user	user name
pwd	password

In all cases, the Open OLAP Gateway method can only be used if the Open OLAP Gateway is started. Using the API reference (the "direct connect" method) does not require a NameShell or Open OLAP Gateway to be active. The Open OLAP Gateway method is the preferred method of connecting to Open OLAP data sources, despite the presence of the direct connect method,

## Seagate Holos

The syntax for a URI to connect to a Holos data provider (i.e. a Holos Live Server):

```
osca:iio://Live_Server;
user=userdomain\username,pwd=password,
server=Holos_server#cube
```

Holos does not support the concept of an OLAP database, so the database parameter is not required.

Parameter	Meaning	Mandatory
Live_Server	Holos Live Server name	Yes
User	Valid username on the Holos server (may require userdomain qualification on NT)	Yes
Pwd	Valid password on the Holos server	Yes
Server	Holos server name	Yes
Cube	The Holos structure being mapped to	Yes

A typical Seagate Holos URI:

```
osca:iiop://DJENKINS.ThisYear;
user=DJENKINS\demo,pwd=demodemo,
server=DJENKINS#ty_data_str
```

## Seagate Info

The syntax for a URI to connect to an Info OLAP cube (i.e. an HDC file):

```
osca:iiop://OOGWY_or_API;
server=Info_server,database=hdc_file#cube
```

Security in Seagate Info is managed by the APS, so username and password are not required.

Parameter	Meaning	Mandatory
<i>OOGWY_or_API</i>	The Open OLAP Gateway name or the API reference: com.crystaldecisions.img.hapi.hdchapi	Yes
Server	Info server name	Yes
Database	Info HDC (Holos Data Control) file that contains the dimension and hsh cube file references	Yes
Cube	The Info cube being mapped to	Yes

A typical Seagate Info URI:

```
osca:iiop://DJENKINS.Info_slb;
server=DJENKINS,database=info_slb.hdc#SalesBudLastYr
```

## OLE DB for OLAP

The syntax for a URI to connect to an OLE DB for OLAP cube such as Microsoft Decision Support Services cube:

```
osca:iiop://OOGWY_or_API;
user=userdomain\username,pwd=password,
server=OLEDB_Server,provider=OLEDB_provider,
database=database#cube
```

Parameter	Meaning	Mandatory
<i>OOGWY_or_API</i>	The Open OLAP Gateway name or the API reference: com.crystaldecisions.img.hapi.tenshapi	Yes
User	Valid username on the OLE DB server (may require userdomain qualification on NT)	No
Pwd	Valid password on the OLE DB	No

	server	
Server	OLE DB server name	Yes
Provider	MSOLAP for Microsoft DSS	Yes
Database	OLE DB for OLAP database name	Yes
Cube	The OLE DB for OLAP cube being mapped to	Yes

A typical Microsoft DSS OLE DB for OLAP URI:

```
osca:iiop://DJENKINS.MSDSS;
  user=DJENKINS\demo,pwd=demodemo,
  server=CARULIAH,provider=msolap,
  database=foodmart#sales
```

## Essbase

The syntax for a URI to connect to an Essbase cube:

```
osca:iiop://OOGWY_or_API;
  user=userdomain\username,pwd=password,
  server=Essbase_Server,schema=Essbase_schema,
  database=database#cube
```

Parameter	Meaning	Mandatory
<i>OOGWY_or_API</i>	The Open OLAP Gateway name or the API reference: com.crystaldecision s.img.hapi.essbhapi	Yes
User	Valid username on the Essbase server (may require userdomain qualification on NT)	No
Pwd	Valid password on the Essbase server	No
Server	Essbase server name	Yes
Schema	Essbase schema name	Yes
Database	Essbase database name	Yes
Cube	The Essbase cube being mapped to	Yes

A typical URI string might look like:

```
osca:iiop://DJENKINS.MSDSS;
  user=holos,pwd=holos,
  server=IPSESB01,schema=sch1,
  database=gravelyc#sales
```

## Contacting Crystal Decisions for Technical Support

Along with this document, and the *Crystal Holos User Manuals*, we recommend that you visit our Technical Support web site for further resources and sample files. For further assistance, visit us at the web sites below.

Technical Support web site:

<http://support.crystaldecisions.com/homepage/>

Answers By Email Support:

<http://support.crystaldecisions.com/support/answers.asp>

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