

Welcome To BioDAS.org

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About DAS

The **Distributed Annotation System** (DAS) defines a communication protocol used to exchange annotations on genomic or protein sequences. It is motivated by the idea that such annotations should not be provided by single centralized databases, but should instead be spread over multiple sites. Data distribution, performed by DAS servers, is separated from visualization, which is done by DAS clients. The advantages of this system are that control over the data is retained by data providers, data is freed from the constraints of specific organisations and the normal issues of release cycles, API updates and data duplication are avoided.

DAS is a client-server system in which a single client integrates information from multiple servers. It allows a single machine to gather up sequence annotation information from multiple distant web sites, collate the information, and display it to the user in a single view. Little coordination is needed among the various information providers.

DAS is heavily used in the genome bioinformatics community. Over the last years we have also seen growing acceptance in the protein sequence and structure communities.

What can I do with DAS ?

A DAS-enabled website or application can aggregate complex and high-volume data from external providers in an efficient manner. For the biologist, this means the ability to "plug in" the latest data, possibly including a user's own data. For the application developer, this means protection from data format changes and the ability to add new data with minimal development cost.

Here are some examples of DAS-enabled applications or websites for end users:

- [Ensembl](#) uses DAS to pull in genomic, gene and protein annotations. It also provides data via DAS.
- [Gbrowse](#) is a generic genome browser, and is both a consumer and provider of DAS.
- [IGB](#) is a desktop application for viewing genomic data.
- [SPICE](#) is an application for projecting protein annotations onto 3D structures.
- [Dasty2](#) is a web-based viewer for protein annotations
- [Jalview](#) is a multiple alignment editor.
- [Pepper](#) is a graphical viewer for 3D electron microscopy data.
- [DASMI](#) is an integration portal for protein interaction data.
- [DASher](#) is a Java-based viewer for protein annotations.

- [EpiC](#) presents structure-function summaries for antibody design.
- [STRAP](#) is a STRucture-based sequence Alignment Program.

Hundreds of DAS servers are currently running worldwide, including those provided by the [European Bioinformatics Institute](#), [Ensembl](#), the [Sanger Institute](#), [UCSC](#), [WormBase](#), [FlyBase](#), [TIGR](#), and [UniProt](#). For a listing of all available DAS sources please visit the [DasRegistry](#).

Versions of DAS

The original DAS specification was written by Lincoln Stein, Sean Eddy, and Robin Dowell. It is widely adopted and well supported, particularly throughout Europe, and is the basis for a large number of existing clients and servers. The protocol has been developed incrementally since its inception and thus there are several successive versions of the specification, each expanding on the last whilst retaining a focus on backwards compatibility. The current specification of DAS is version [1.53](#) and the upcoming version is [1.6](#).

Though mature, the protocol continues to be extended to cater for the needs of the DAS community via extensions to the specification. Together, these extensions form an "extended specification". The current version is [1.53E](#) and the upcoming version is [1.6E](#).

NOTE: The DAS/2 project is an entirely separate specification which although based on the DAS architecture is not backwards compatible with existing servers and clients. It is described separately on the [DAS/2](#) page.

The various specification versions on this site are described [here](#).

Evolution

Graphic representation of the evolution of "Versions of DAS" over the years. The different colors identify the version/specification and the white numbers an estimation of available sources per year.

Further Reading

If you would like to find out more, see a description of the [DAS protocol](#). Additional information is also available in the form of an [FAQ](#) page, and a more extensive reference: [Everything DAS](#). There is also a list of DAS related [publications](#).

The [Community Portal](#) page contains information on the various DAS mailing lists.

DAS is often represented in workshops, training courses and conferences. A list of past and future events is available on the [Current events](#) page.

Contribute to this Wiki

Want to contribute to the Wiki? please see some beginners instructions at the [WikiGetStarted](#) page.