

MycoCosm, an Integrated Fungal Genomics Resource

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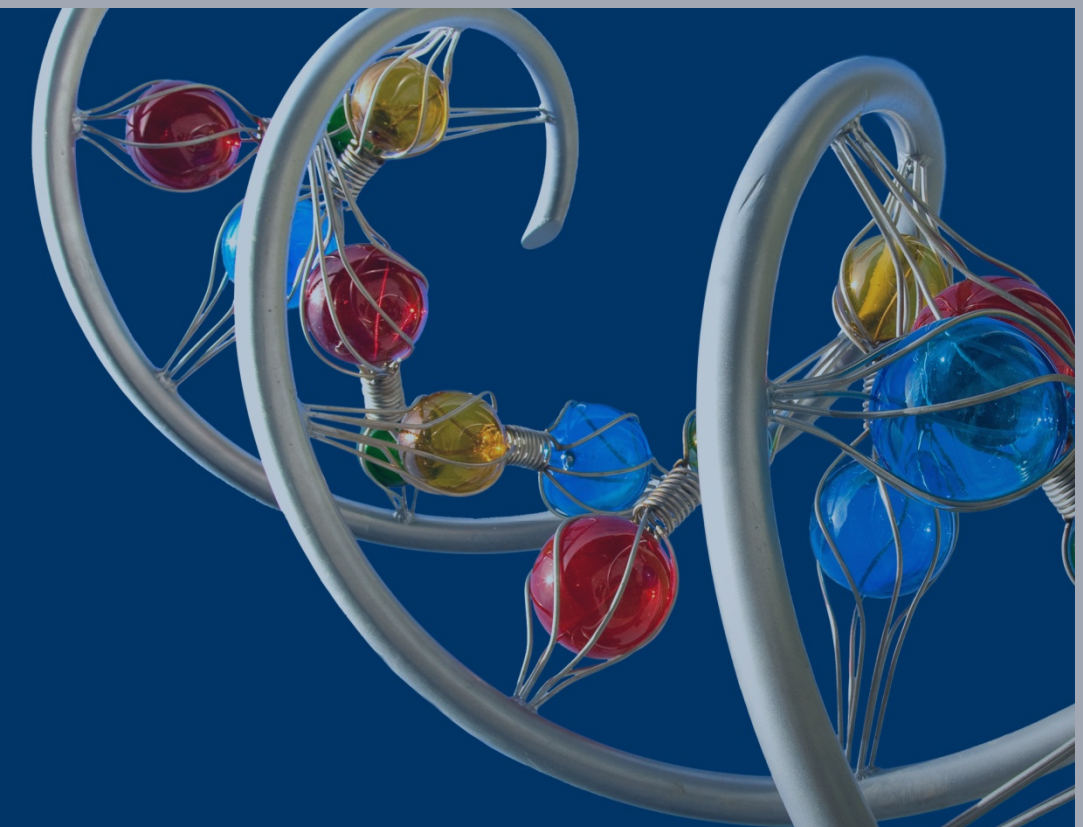
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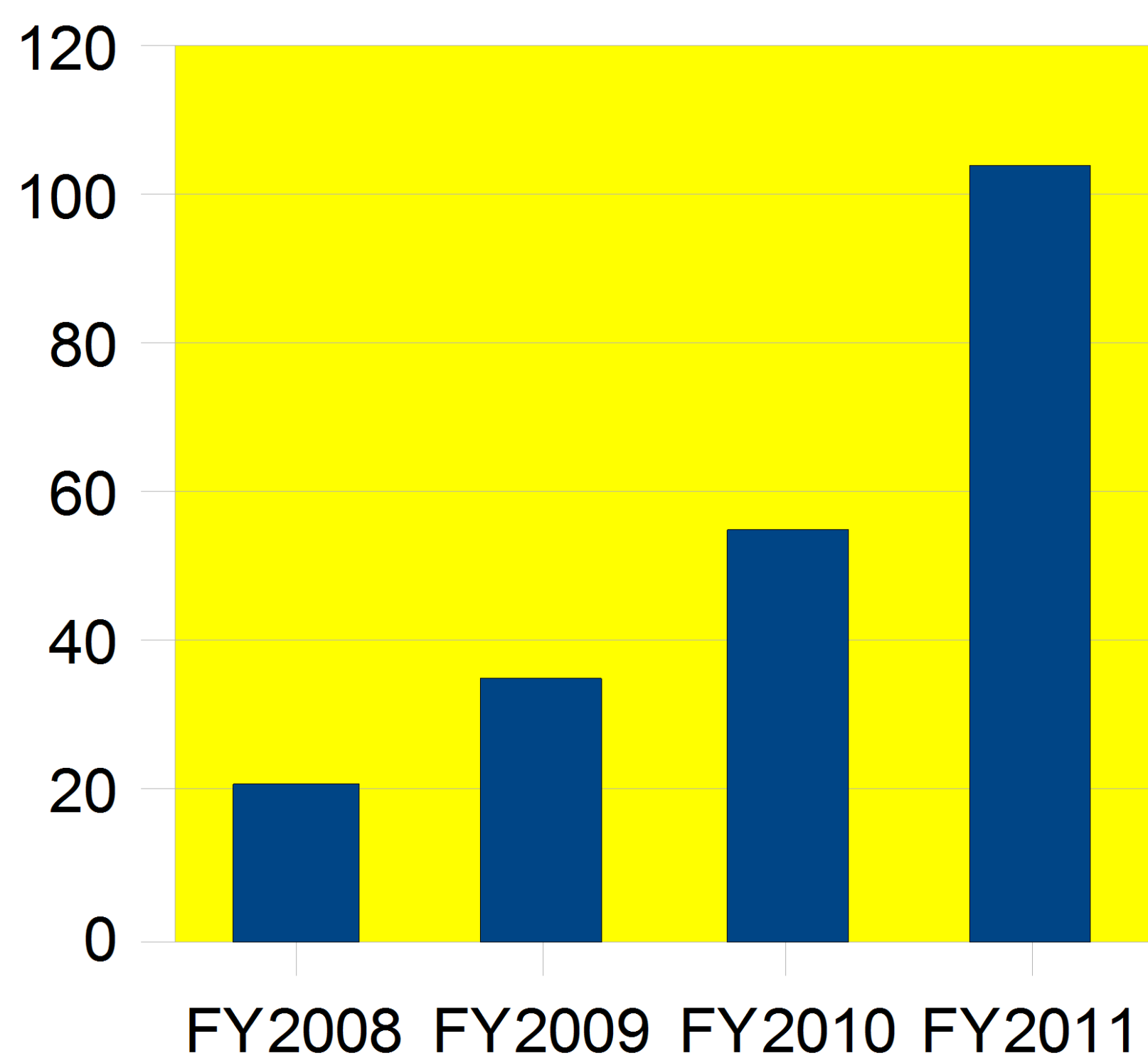
Abstract

MycoCosm is a web-based interactive fungal genomics resource, which was first released in March 2010, in response to an urgent call from the fungal community for integration of all fungal genomes and analytical tools in one place (Pan-fungal data resources meeting, Feb 21-22, 2010, Alexandria, VA). MycoCosm integrates genomics data and analysis tools to navigate through over 100 fungal genomes sequenced at JGI and elsewhere. This resource allows users to explore fungal genomes in the context of both genome-centric analysis and comparative genomics, and promotes user community participation in data submission, annotation and analysis. MycoCosm has over 4500 unique visitors/month or 35000+ visitors/year as well as hundreds of registered users contributing their data and expertise to this resource. Its scalable architecture allows significant expansion of the data expected from JGI Fungal Genomics Program, its users, and integration with external resources used by fungal community.

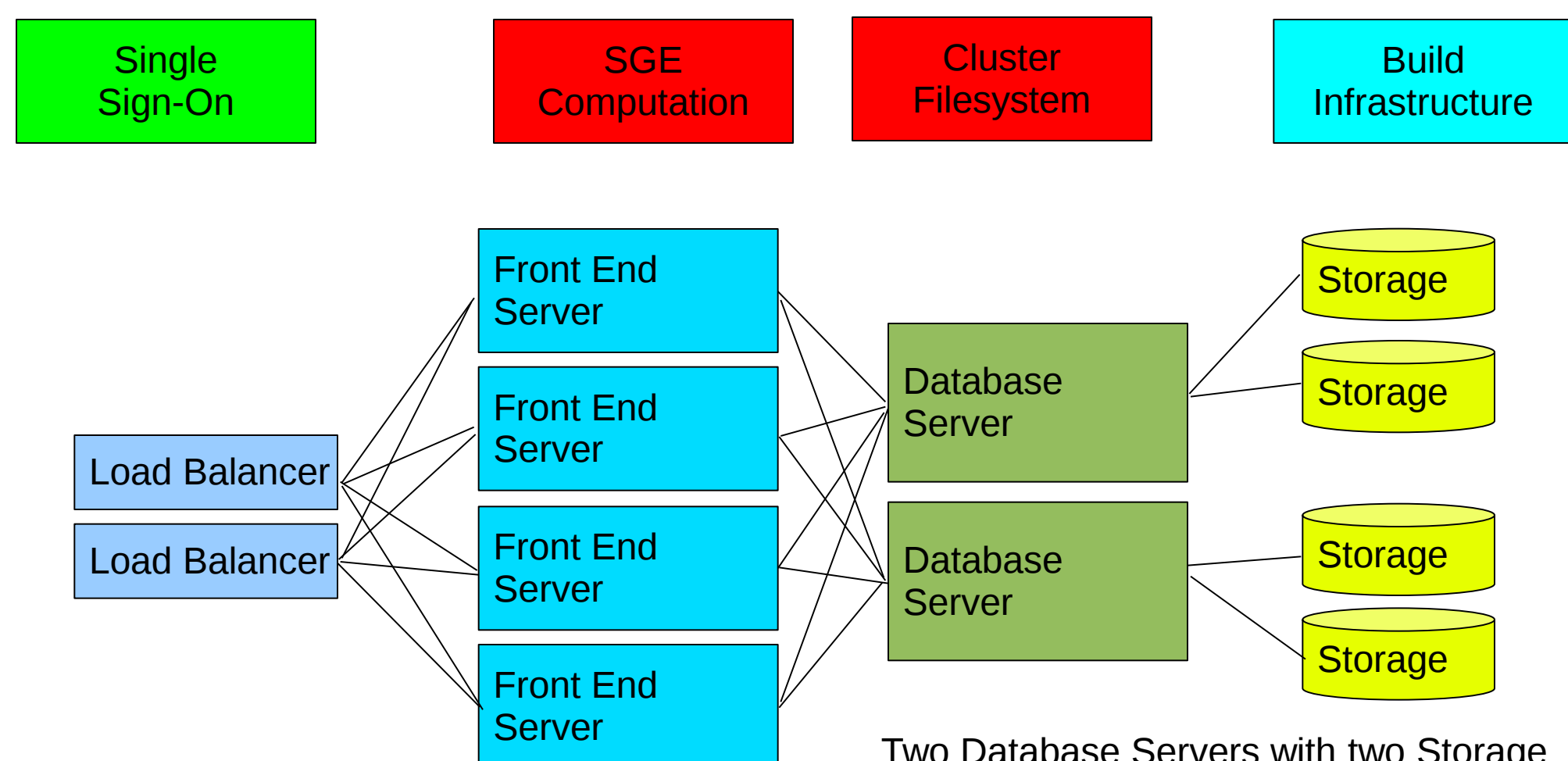
MycoCosm is described as a featured article in the next database issue of Nuclear Acids Research (Grigoriev et al, NAR, 2011).

Henrik Nordberg, Roman Nikitin, Mike Cantor, Susan Hua, Serge Dusheyko, Tatyana Smirnova, Igor Rathere, Arkady Voloshin, Oleg Alexandrov and Inna Dubchak participated in development of MycoCosm.

Number of Genomes



Scalable Architecture



We have scalable architecture with elements of fault tolerance.

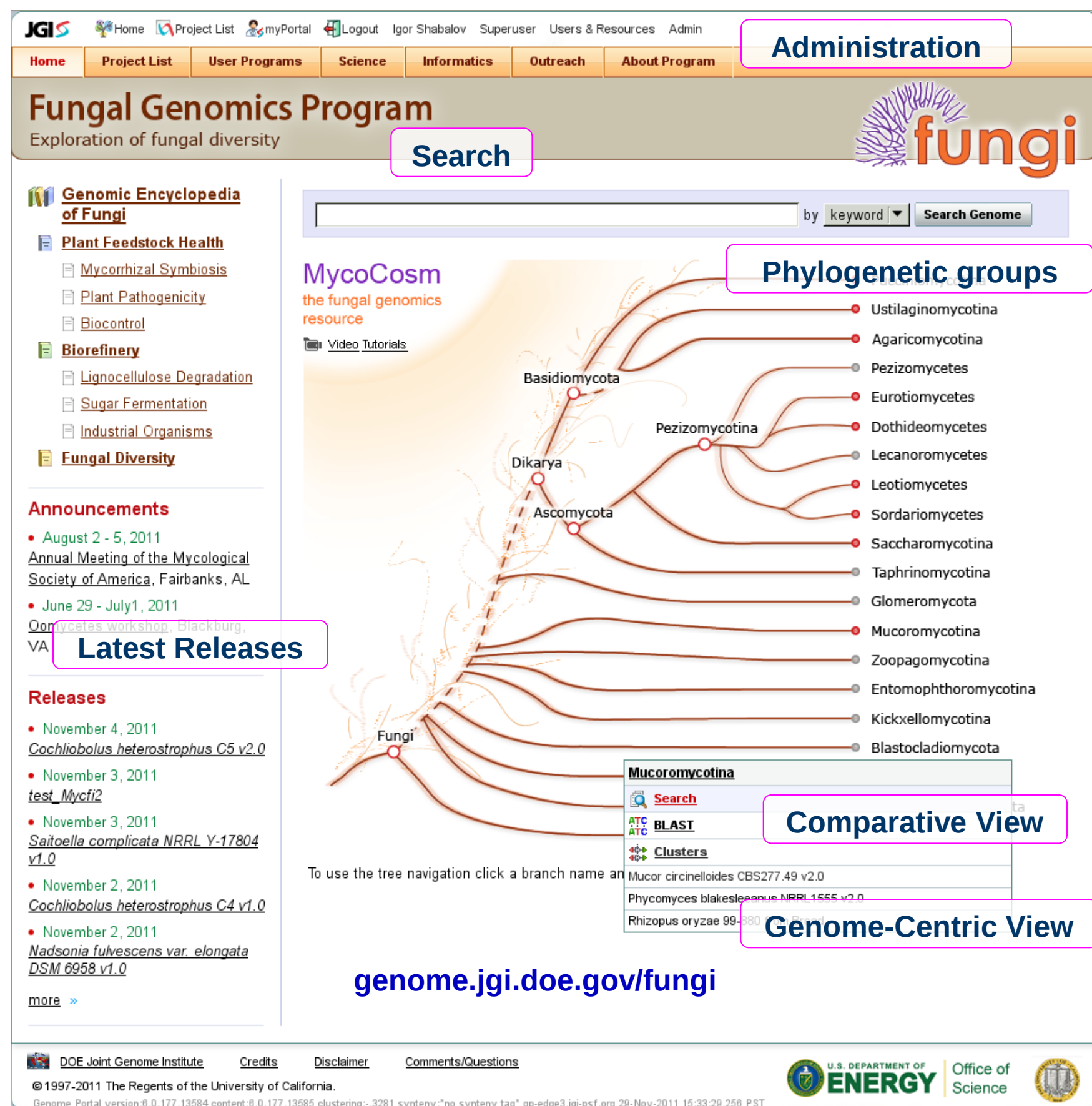
Two Load Balancers and four Front End Servers are redundant and provides fault tolerance with automatic fail-over.

Two Database Servers with two Storage unit each provides scalable data storage. We can add more database servers or storage if we need.

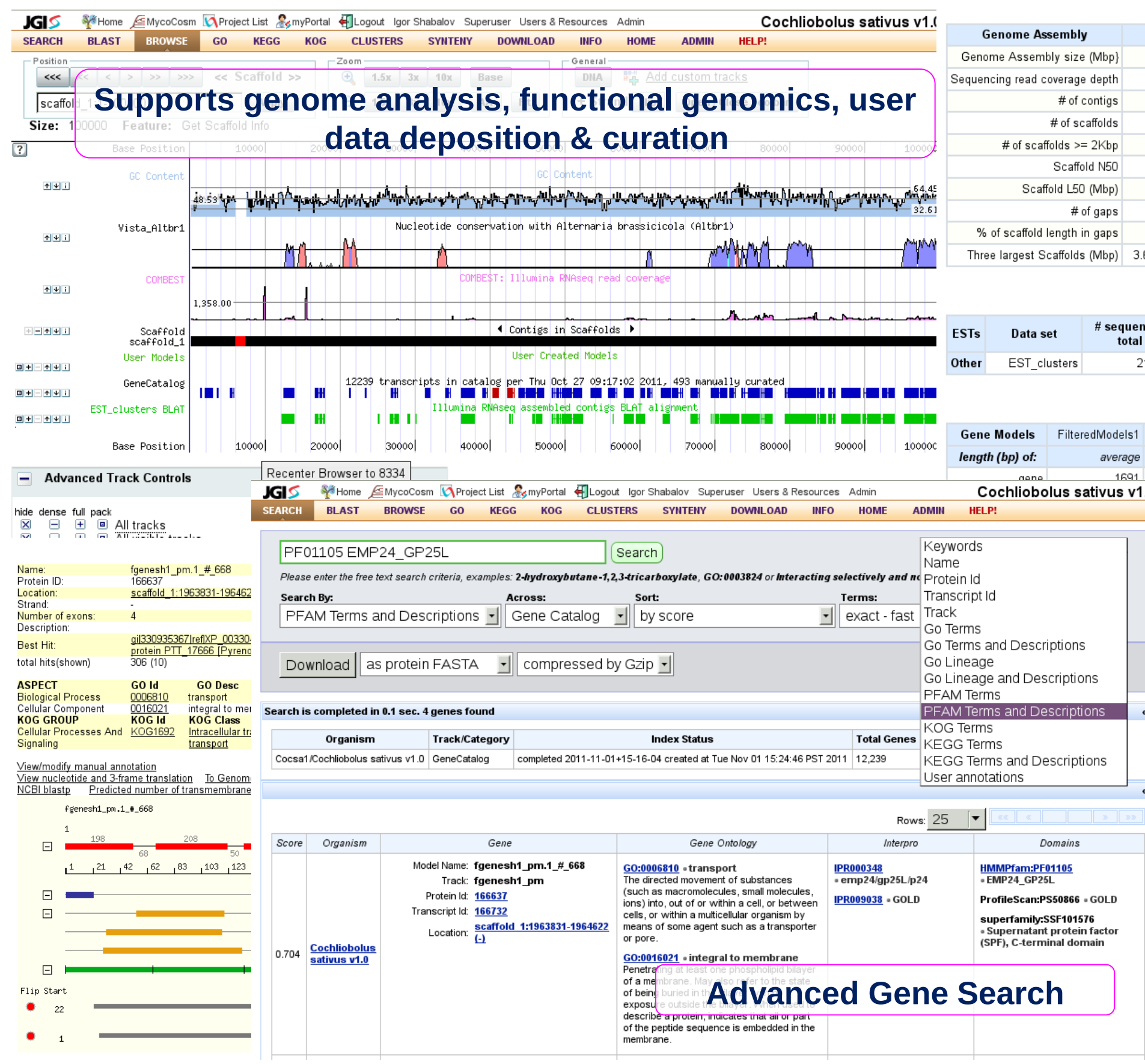
We do not have automatic fail-over for database, we rely on our datacenter backup procedures to restore databases in case of catastrophic failure.

Three Major Components of MycoCosm

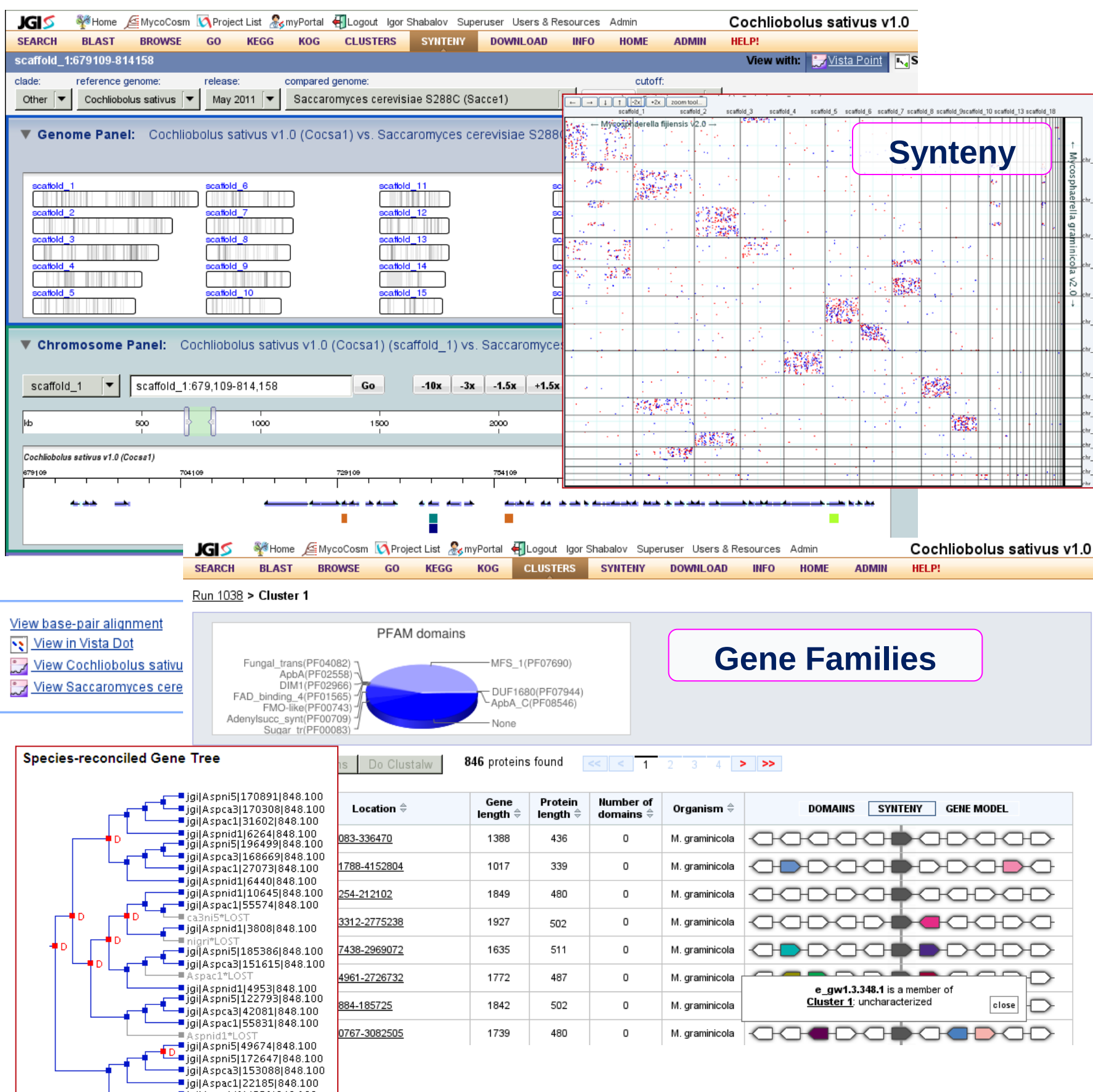
Navigator



Genome-Centric View



Comparative View

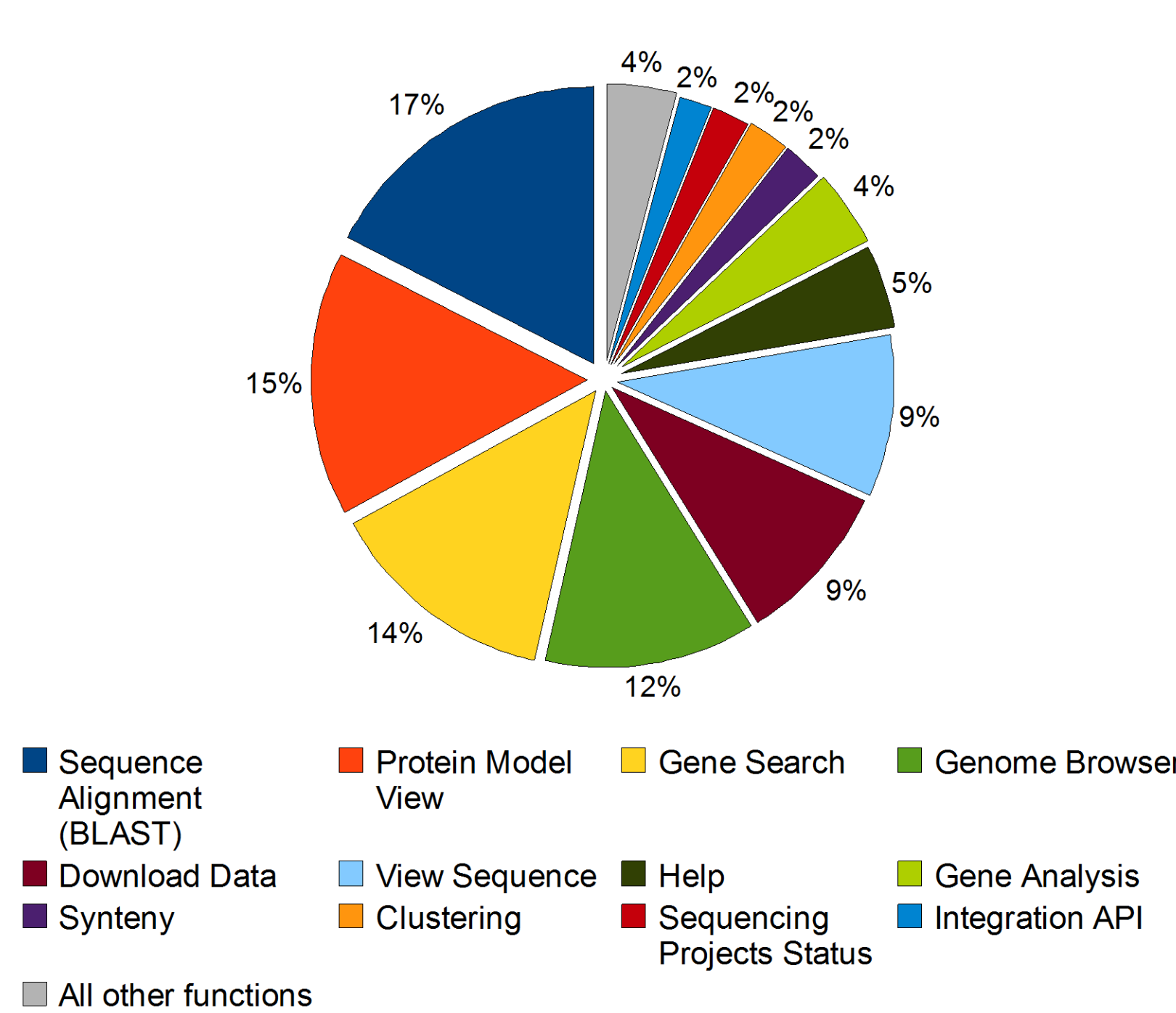


Users Activities

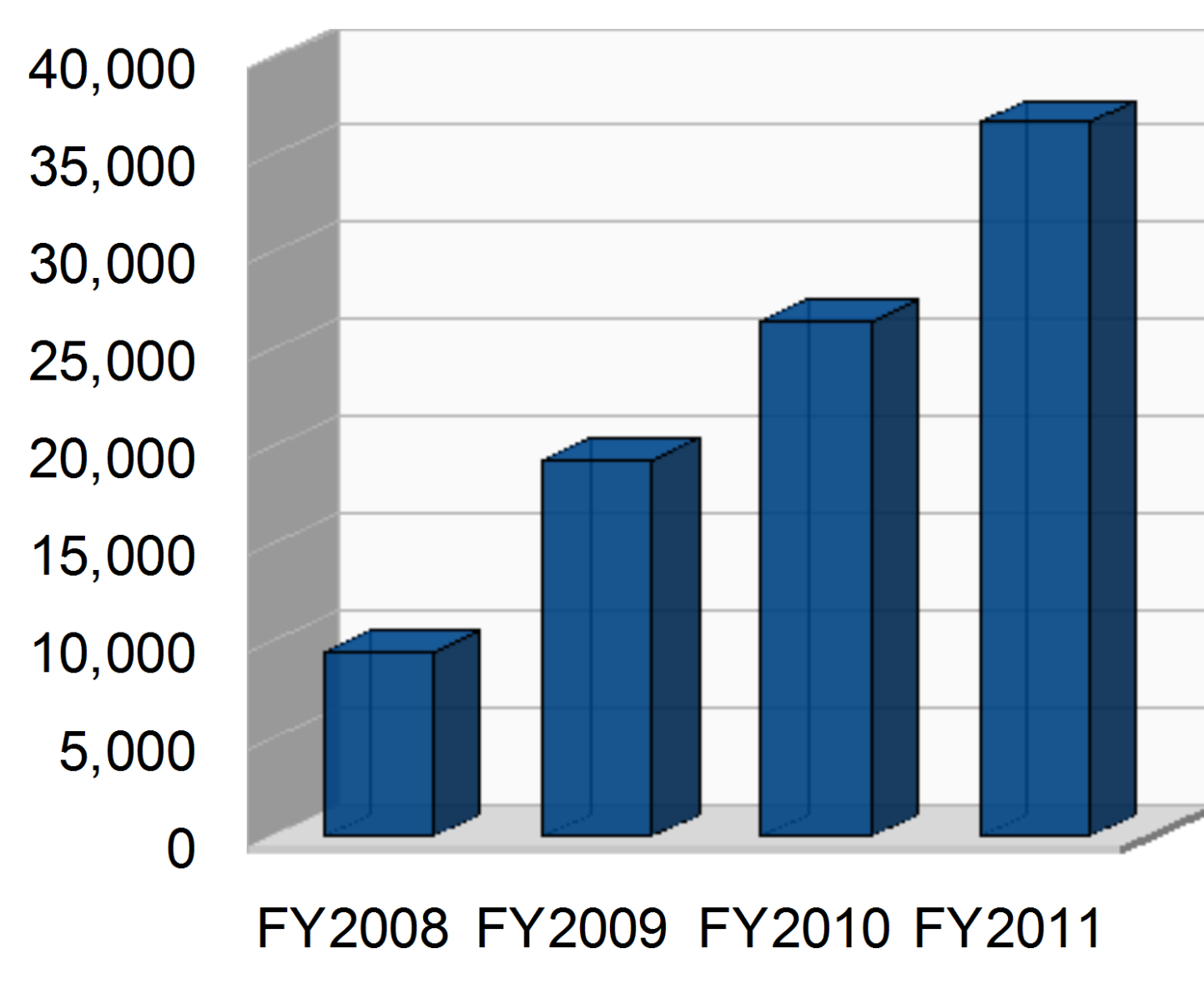
Most Popular Genomes (FY11, 50% of All Visitors)

Name	Page Views	Unique IP
Trichoderma reesei	281,605	4,162
Aspergillus niger	121,134	2,796
Phanerochaete chrysosporium	107,653	2,657
Agaricus bisporus var bisporus (H97)	82,191	2,304
Pichia membranifaciens	52,675	2,109
Pichia stipitis	27,378	2,066
Alternaria brassicicola	29,771	1,996
Laccaria bicolor	61,460	1,831
Nectria haematococca	22,726	1,788
Mycosphaerella graminicola	100,507	1,677
Schizophyllum commune	55,268	1,662
Trichoderma atroviride	72,058	1,561
Mucor circinelloides CBS277.49	27,886	1,489
Postia placenta MAD-698	50,473	1,457
Pleurotus ostreatus PC15	106,043	1,428
Melampsora larici-populina	44,446	1,406
Trichoderma virens Gv29-8	61,812	1,395
Mycosphaerella fijiensis	42,889	1,386
Sporobolomyces roseus	39,266	1,297
Cochliobolus heterostrophus C5	51,497	1,257
Sporotrichum thermophile	44,779	1,250
Phycomyces blakesleeanus	28,457	1,082

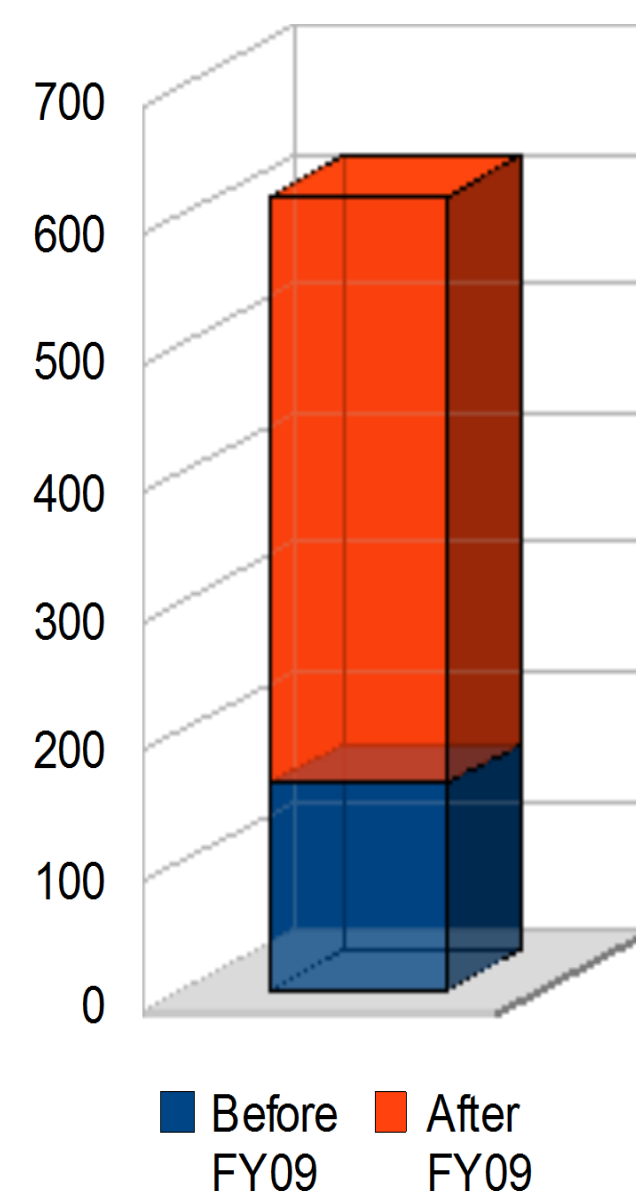
Most Popular Functions



Annual Unique Visitors



Registered Users



Connections to External Sites

