



Using the Virtual Observatory Concept - spanning research data, information and educational uses.

Definition:
The purpose of a Virtual Observatory is to increase efficiency, and enable new science by greatly enhancing access to data, services, and computing resources.

A Virtual Observatory is a suite of software applications on a set of computers that allows users to uniformly find, access, and use resources (data, documents, software, processing capability, image products, and services) from distributed product repositories and service providers.

A Virtual Observatory may have a single subject (for example, the Virtual Solar Observatory) or several grouped under a theme (the US National Virtual Observatory, <http://www.us-vo.org/>, which is for astronomy). A Virtual Observatory will typically take the form of an internet portal offering users along the following.

- Tools that make it easy to locate and retrieve data from catalogs, archives, and databases worldwide
- Tools for data analysis, simulation, and visualization
- Tools to compare observations with results obtained from models, simulations, and theory.
- Interoperability: services that can be used regardless of the clients computing platform, operating system, and software capabilities
- Access to data in near real-time, archived data, and historical data.
- Additional information - documentation, user-guides, reports, publications, news, and so on.

Virtual Observatories are in varying states of development around the world - relatively well developed in some areas, while still a novelty in others. In the former case, eGY can be useful for publicizing and promoting greater use of the existing capabilities. In the latter case, eGY can be used to justify and stimulate the development of new capabilities. In all cases, eGY can be useful for informing the provider/user communities, for coordinating activities, and for promoting international standards.

Virtual Observatories, Data Systems, Data Systems, e-Science GRIDS

Data & Information Systems/Networks, e-Science, Grids

'AEON - Australian Earth and Ocean Network
<http://www.aeon.org.au/>

'AODC - Australian Ocean Data Centre Joint Faculty Grid Feed
<http://aodc.net.au/>

'APAC Grid Program (Australian Partnership for Advanced Computing)
http://www.apac.edu.au/communication_media/subventions

'ASTROGRID
<http://www.astrogrid.org/>

'BIOS - Biological Innovation for Open Society
<http://www.bios.org/>

'BlueNet - The Australian Marine Science Data Network
http://www.usis.edu.au/marine_news_events/bluenet.html

'CANRI - Community Access to Natural Resource Information
<http://www.canri.nsw.gov.au/>

'CIG - Computational Infrastructure in Geodynamics
<http://igso.org/cig/>

'CMP - Climate Database Modernisation Program
Program Manager: Joe D. Elms joe.d.elms@ncra.gov.au

'CEDARweb - Coupling, Energetics and Dynamics of Atmospheric Regions Data Systems
<http://cedarweb.jpl.nasa.gov/>

'EarthScope
<http://www.earthscope.org/>

'Earth System Grid, climate model data
<http://earthsystemgrid.org/>
<http://www.esg.noaa.gov/>
<http://iglobchange.gov/>
<http://www.esg.noaa.gov/>

'ECHO - Earth Observing System Clearing House
<http://www.echo.nasa.gov/>

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'OOI - Ocean Observatories Initiative
<http://www.oceanobservatories.org/>

'ORION - Ocean Research Interactive Observing Networks
<http://www.oriongrid.org/>

'PAMENA - Publishing Network for Geoscientific and Environmental Data
<http://www.pamena.org/>

'SEGRID - Solid Earth and Environment GRID
<http://www.segrid.org/>

'SPASE - Space Physics Archive Search and Extract
<http://www.spase.org.au/>

'SPICE - Seismic wave propagation and imaging in complex media: a European network
<http://www.spice.eu.org/>

'SPDR - Space Physics Interactive Data Resource
<http://spidr.nas.nasa.gov/spidr/>

'STARS - Solar-Terrestrial data Analysis and Reference System
<http://trifonov.cle.ohio-state.edu/STARS/STARS.html>

'UK e-Science Core Programme
<http://www.uk-ec.eu.org/>

'UK National e-Science Centre (NeSC)
<http://www.nesc.ac.uk/>

'UK Grid Operations Support Centre (GOSC)
<http://www.gosc.ac.uk/>

'VAC - Victorian Partnership for Advanced Computing
<http://www.vpac.org/>

'Earth Observing System Initiatives

'ACOS - Advanced Coronal Observing System
<http://www.acos.gov/>

'AEO - Alliance for Earth Observations
<http://www.aeo.org/>

'CEOS - Committee on Earth Observing Satellites
<http://www.ceos.org/>

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Virtual Observatories

'ASTROGRID Virtual Observatory
<http://www.astrogrid.org/>

'AVO - Astrophysical Virtual Observatory
<http://www.us-vo.org/>

'CARISMA - Canadian Array for Realtime Investigations of Magnetic Activity
<http://www.carisma.ca/>

'WTF-CEOP - The WIGVIS Test Facility for CEOP
<http://www.wtf.ceop.org/>

'COSEC - Collaborative Sun Earth Connector
<http://www.cosec.org/>

'Earth Observer
<http://earthobserver.nasa.gov/>

'EGSO - European Grid of Solar Observations
<http://www.egso.org/>

'GAI - Global Aerial Imaging Access
<http://www.gai.org/>

'ICESTAR - Interhemispheric Conjugacy Effects on Solar-Terrestrial and Auroral Research
<http://www.icestar.org/>

'IVOA - International Virtual Observatory Alliance
<http://www.ivoa.net/>

'MADRIL - Madrid Virtual Observatory
<http://www.madril.org/>

'NVO - US National Virtual Observatory
<http://www.us-vo.org/>

'NVOs - National Virtual Ocean Data System
<http://www.nvo.org/>

'VSN - Virtual Seismic Network
<http://icdf.org/vsn/vsn.html>

'VLMO - Virtual Global Magnetic Observatory
<http://www.vlmo.org/>

'VHO - Virtual Heliospheric Observatory
<http://www.vho.org/>

'VRBO - Virtual Radiation Belt Observatory
<http://www.vrbo.org/>

'VTMO - Virtual Ionosphere-Mesosphere-Thermosphere Observatory
<http://www.vtmo.org/>

'VSPO - Virtual Space Physics Observatory
<http://www.vspo.org/>

'VSTO - Virtual Solar-Terrestrial Observatory
<http://www.vsto.org/>

'VMOs - Virtual Magnetospheric Observations
<http://www.vmo.org/>

Education Grids

'TensGrid - Distributed Terrestrial Facility, China Grid University of Virginia, WestGrid, University of Florida, National Institute of Technology (NITTE), Open and Distance Education VO
<http://www.tensgrid.org/>

'SkyView VO
<http://www.skyview.org/>

'Chabot - Virtual Space and Science Center
<http://www.chabot.edu/vso/observer/defaul.asp>

'Hayden Planetarium

'Government Grids

'UK eScience Grid, MyGRID (UK)
<http://research.ecs.soton.ac.uk/projects/myGrid.html>

'CERN, NIST, European DataGrid
<http://www.cern.ch/infocomputing/japanese-national-institute-aist>

'WWW - World Weather Watch
<http://www.aobn.org.uk/eos/eosim/index/index2.htm>

Would you like to be added to this list? Send an email to the custodian:
Bill Peterson ilasp.colorado.edu with a project name, website/contact and a description.

SKYVIEW

SKYVIEW: The Internet's Virtual Telescope. This is a Virtual Observatory on the Net presenting images of any part of the sky at wavelengths in all regions from Radio to Gamma-Ray. On 18 May 2004, SkyView did ST 5.1 but has updated the astronomy related with DSS2 image headers. To get the most accurate astronomy all DSS2 images output of SkyView have been deleted. DSS2 downloads may seem to take a little longer as the cache is rebuilt. A few errors have been noted where the new headers were incorrect. Users looking at DSS2 images in regions they are not familiar with can check by comparing with the DSS2 image of the same region. The ultimate SkyView server is available at skyview.mak.mcgill.ca.

IOOS

IOOS: National Office for Integrated and Sustained Ocean Observations: Ocean.US. Ocean.US is a web portal for the National Oceanographic and Atmospheric Administration's Integrated and Sustained Ocean Observations (IOOS) program. It provides a central location for information about IOOS, including a list of IOOS nodes, a list of IOOS products, and a list of IOOS services. The site also features a search function and a list of IOOS events.

MAUNA LOA SOLAR OBS

Mauna Loa Solar Observatory: Welcome to the Mauna Loa Solar Observatory (MSO) Website. The MSO, operated by the High Altitude Observatory in Boulder Colorado, houses several instruments designed to observe the sun at many different wavelengths. The website provides information about the observatory, its instruments, and the data they collect.

European Grid of Solar Observations

European Grid of Solar Observations: This website provides a central location for information about the European Grid of Solar Observations (EGSO). It includes a search function, a list of EGSO nodes, and a list of EGSO products. The site also features a search function and a list of EGSO events.

EarthScope

EarthScope: This website provides information about the EarthScope project, which is a major geophysical research program. It includes a search function, a list of EarthScope nodes, and a list of EarthScope products. The site also features a search function and a list of EarthScope events.

IRIS

IRIS: This website provides information about the IRIS (Integrated Research in Seismology) project. It includes a search function, a list of IRIS nodes, and a list of IRIS products. The site also features a search function and a list of IRIS events.

NVO - Datascope

NVO - Datascope: This website provides a central location for information about the National Virtual Observatory (NVO) Datascope. It includes a search function, a list of NVO Datascope nodes, and a list of NVO Datascope products. The site also features a search function and a list of NVO Datascope events.

CEDARWEB

CEDARWEB: This website provides information about the CEDAR (Coupling, Energetics and Dynamics of Atmospheric Regions) Data System. It includes a search function, a list of CEDARWEB nodes, and a list of CEDARWEB products. The site also features a search function and a list of CEDARWEB events.

Grids and Data Portals

Grids and Data Portals: This website provides a central location for information about various grids and data portals. It includes a search function, a list of Grids and Data Portals nodes, and a list of Grids and Data Portals products. The site also features a search function and a list of Grids and Data Portals events.

Virtual GeoMagnetic Observatory

Virtual GeoMagnetic Observatory: This website provides a central location for information about the Virtual GeoMagnetic Observatory (VGMO). It includes a search function, a list of VGMO nodes, and a list of VGMO products. The site also features a search function and a list of VGMO events.

Virtual Solar Observatory

Virtual Solar Observatory: This website provides a central location for information about the Virtual Solar Observatory (VSO). It includes a search function, a list of VSO nodes, and a list of VSO products. The site also features a search function and a list of VSO events.

Virtual Space Physics Observatory

Virtual Space Physics Observatory: This website provides a central location for information about the Virtual Space Physics Observatory (VSPO). It includes a search function, a list of VSPO nodes, and a list of VSPO products. The site also features a search function and a list of VSPO events.