Grid, Distributed and Cloud Computing Resources Primer

By

Marcus P. Zillman, M.S., A.M.H.A.
Executive Director – Virtual Private Library
zillman@virtualprivatelibrary.com

The April 2013 Column features **Grid, Distributed and Cloud Computing Resources Primer** is a comprehensive listing of grid resources, distributed computing resources, cloud computing resources, clusters, and parallel computing sites on the Internet. The below list of sources is taken from my Subject Tracer™ Information Blog titled Grid Resources and is constantly updated with Subject Tracer™ bots at the following URL:

http://www.GridResources.info/

These resources and sources will help you to discover the many pathways available to you through the Internet to find the latest grid, distributed and cloud computing resources and sites. There you can help to discover the next prime number, discover the cure for AIDs, and more, using resources on the Internet.

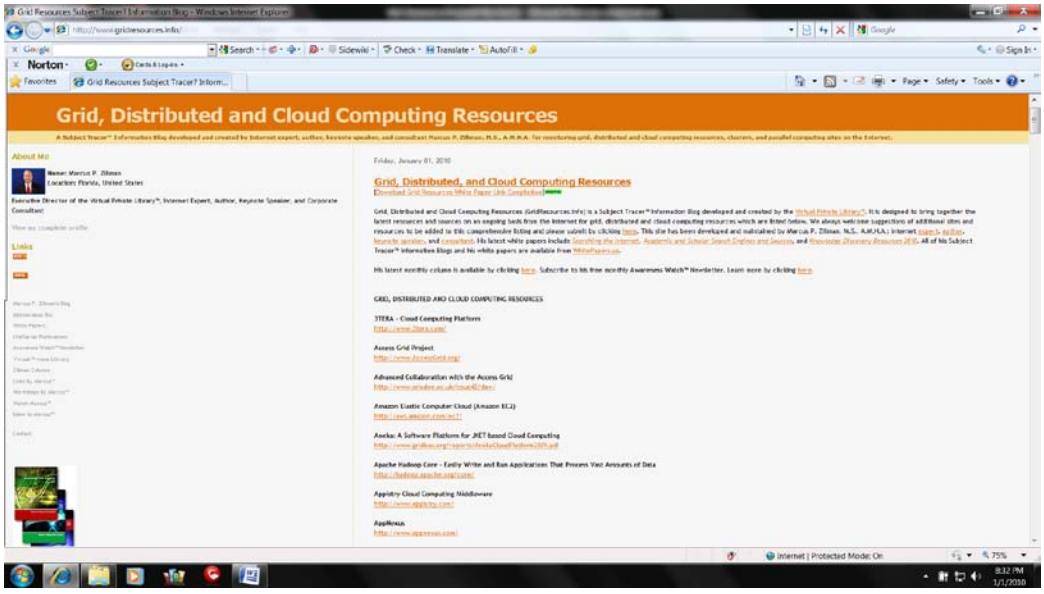

Figure 1: Grid, Distributed and Cloud Computing Resources Subject Tracer™ Information Blog

Cloud Computing Primer

Cloud computing describes a broad movement to treat IT services as a commodity with the ability to dynamically increase or decrease capacity to match usage needs. By leveraging shared infrastructure and economies of scale, cloud computing presents a compelling business model. It allows users to control the computing services they access, while sharing the investment in the underlying IT resources among consumers. When the computing resources are provided by another organization over a wide-area network, cloud computing is similar to an electric power utility. The providers benefit from economies of scale, which in turn enables them to lower individual usage costs and centralize infrastructure costs. Users pay for what they consume. Users can also increase or decrease their usage, and leverage the shared underlying resources. With a cloud computing approach, a cloud customer can spend less time managing complex IT resources and more time investing in core mission work.

Cloud computing is defined by the National Institute of Standards and Technology (NIST) as "a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction." NIST has identified five essential characteristics of cloud computing: on-demand service, broad network access, resource pooling, rapid elasticity, and measured service.

Cloud computing has several deployment models, each of which provides distinct trade-offs which migrate applications to a cloud environment. NIST defines four cloud deployment models as follows:

(1) Private Cloud – The cloud infrastructure is operated solely for an organization. A private cloud may be managed by the organization or a third party and may exist on premise or off premise.

(2) Community Cloud – The cloud infrastructure is shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy, and compliance considerations). A community cloud may be managed by the organizations or a third party and may exit on premise or off premise.

(3) Public Cloud – The cloud infrastructure is made available to the general public or a large industry group and is owned by an organization selling cloud services.

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

(4) Hybrid Cloud – The cloud infrastructure is a composition of two or more clouds (private, community or public) that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability (e.g., cloud bursting for load-balancing between clouds).

Cloud computing can also be categorized into service models. These three models are defined by NIST to be:

(1) Cloud Software as a Service (SaaS) – The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through a thin client interface such as a web browser (e.g., web-based email). The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.

(2) Cloud Platform as a Service (PaaS) – The capability provided to the consumer is the ability to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems or storage, but has control over the deployed applications and possibly application hosting environment configurations.

(3) Cloud Infrastructure as a Service (IaaS) – The capability provided to the consumer is processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications. The consumer does not manage or control the underlying cloud infrastructure but has control over operating systems, storage, deployed applications, and possibly limited control of select networking components (e.g., host firewalls).

Cloud computing enables IT systems to be scalable and elastic. End users do not need to determine their exact computing resource requirements upfront. Instead, they provision computing resources as required, on-demand.

Cloud-based projects can be conceived, developed, and tested with smaller initial investments than traditional IT investments. Rather than laboriously building data center capacity to support a new development environment, capacity can be provisioned in small increments through cloud computing technologies. After the small initial investment is made, the project can be evaluated for additional investment or

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

cancellation. Projects that show promise can gain valuable insights through the evaluation process. Less promising projects can be cancelled with minimal losses. This "start small" approach collectively reduces the risk associated with new application development. Reducing the minimum required investment size will also provide a more experimental development environment in which innovation can flourish!

Grid, Distributed and Cloud Computing Resources:

3TERA - Cloud Computing Platform
http://www.3tera.com/

Access Grid Project
http://www.AccessGrid.org/

Advanced Collaboration with the Access Grid
http://www.ariadne.ac.uk/issue42/daw/

Amazon Cloud Drive
https://www.amazon.com/clouddrive/learnmore

Amazon Cloud Drive Desktop APP for Windows and Mac
http://www.amazon.com/gp/feature.html?ie=UTF8&docId=1000796781

Amazon CloudSearch
http://aws.amazon.com/cloudsearch/

Amazon Elastic Computer Cloud (Amazon EC2)
http://aws.amazon.com/ec2/

Aneka: A Software Platform for .NET-based Cloud Computing
http://www.gridbus.org/reports/AnekaCloudPlatform2009.pdf

Apache Hadoop Core - Easily Write and Run Applications That Process Vast Amounts of Data
http://hadoop.apache.org/core/

Appistry-Cloud Computing Middleware
http://www.appistry.com/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

AppNexus
http://www.appnexus.com/

ArchiveGrid - Historical Archives from Throughout the World
http://www.archivegrid.org/web/index.jsp

Artificial Intelligence Systems Distributed Computing Project
http://www.intelligencerealm.com/aisystem/system.php

BioGRID
http://www.thebiogrid.org/

BOINC - Open-Source Software for Volunteer Computing and Grid Computing
http://boinc.berkeley.edu/

Boomi AtomSphere(SM)
http://www.boomi.com/

Building the Info Grid
http://www.ariadne.ac.uk/issue45/buildinginfogrid-rpt/

caBIG™ - cancer Biomedical Informatics Grid
https://cabig.nci.nih.gov/workspaces/Architecture/caGrid/

Capture to Cloud - Capture and Share Anywhere
http://www.capturetocloud.com/

CenterGate Research Group LLC
http://www.centergate.com/

CirrusGrid by CPUsage - Distributed and Extensive Computing
http://www.cpusage.com/

CISS - Canadian Internetworked Scientific Supercomputer
http://www.cs.ualberta.ca/~ciss/

Clean Energy Distributed Project
http://cleanenergy.harvard.edu/go/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Climate Prediction
http://climateprediction.net/

Cloud.com - Open Source, Turnkey Infrastructure as a Cloud (IaaS) Software Platform for Everyone
http://www.cloud.com/

Cloud and Autonomic Computing Center
http://www.nsfcac.org/

CloudApp - Share Files Fast
http://www.getcloudapp.com/

CloudBerry Online Backup
http://www.cloudberrylab.com/default.aspx?page=cloudberry-backup

CloudBuddy - Your Virtual Desktop
http://www.mycloudbuddy.com/

Cloud Commons Insight API
http://www.programmableweb.com/api/cloudcommons-insight

Cloud Computing and Emerging IT Platforms: Vision, Hype, and Reality for Delivering Computing as the 5th Utility
http://www.gridbus.org/reports/CloudITPlatforms2008.pdf

Cloud Computing and High-Performance Computing
http://search.techrepublic.com.com/search/cloud+computing+and+high-performance+computing.html

Cloud Computing Comparison Engine
http://www.cloudorado.com/

Cloud Computing Expo
http://cloudcomputingexpo.com/

Cloud Computing Journal
http://cloudcomputing.sys-con.com/

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Cloud Computing Resource Center
http://www.deitel.com/ResourceCenters/Programming/CloudComputing/tabid/3057/Default.aspx

Cloud Computing Resource, News and Support
http://www.dabcc.com/section.aspx?sectionid=12

Cloud Computing - Wikipedia
http://en.wikipedia.org/wiki/Cloud_computing

Cloud Contact Forms
http://cloudcontactforms.com/

Cloud Engineering Is Here
http://upverter.com

CloudFlare - Website Performance and Security
http://www.cloudflare.com/

CloudFogger - Secure File Encryption for Dropbox, SkyDrive, Google Drive and Others
http://www.cloudfogger.com/en/

CloudKick - Cloud Server Management
https://www.cloudkick.com/

Cloudo - The Computer Evolved
http://www.cloudo.com/

CloudSafe - Safe Harbor for Sensitive Data
https://secure.cloudsafe.com/

CloudSim: A Novel Framework for Modeling and Simulation of Cloud Computing Infrastructures and Services by Rodrigo N. Calheiros1, Rajiv Ranjan1, César A. F. De Rose, and Rajkumar Buyya
http://www.gridbus.org/reports/CloudSim-ICPP2009.pdf

CloudXL - An Organized List of Cloud Computing and Software As a Service Providers
http://www.cloudxl.com/

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Cluster Computing: The Journal of Networks, Software Tools and Applications
http://www.springerlink.com/link.asp?id=101766

Cluster Resources
http://www.clusterresources.com/

Community Grids Lab
http://www.communitygrids.iu.edu/

Condor Project - High Throughput Computing
http://www.cs.wisc.edu/condor/

Cosmogrid - Grid-enabled Computational Physics of Natural Phenomena
http://www.cosmogrid.ie/

D2OL - Drug Design and Optimization Lab - Discover Drug Candidates
http://www.d2ol.com/

DataMiningGrid Consortium
http://www.datamininggrid.org/

Deep Web Research Resources 2013
http://www.DeepWebResearch.info/
http://DeepWeb.us/

dhtmlxGrid - Ajax-enabled DHTML Grid with Rich Javascript API
http://www.dhtmlx.com/docs/products/dhtmlxGrid/

Digipede Technologies - Distributed Computing Solutions on Microsoft.NET Platform
http://www.digipede.net/

Digital Mines - Management for Cloud Computing
http://www.digitalmines.com/

Distributed.net - Node Zero
http://www.distributed.net/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Distributed Computing Resources
http://www.jamesthornton.com/hotlist/distcomp.html

Distributed Generic Information Retrieval (DiGIR)
http://digir.sourceforge.net/

Distributed Search Engines
http://www.openp2p.com/pub/t/74

Distributed Systems - Google Code University
http://code.google.com/edu/parallel/index.html

Distributed Systems Laboratory at University of Chicago
http://dsl.cs.uchicago.edu/

Economy Grid (EcoGrid) Project
http://www.gridbus.org/~raj/ecogrid/

EditGrid - Online Spreadsheets With Data On Demand
http://www.editgrid.com/

EGEE: Enabling Grids for E-science in Europe
http://egee-intranet.web.cern.ch/egee-intranet/gateway.html

Einstein@Home Distributed Computing Research Project
http://einstein.phys.uwm.edu/

EuroGRID
http://www.eurogrid.org/

European Grid Infrastructure - Towards a Sustainable Infrastructure
http://www.egi.eu/

ExcelGrid
http://www.gridbus.org/excelgrid/

eyeOS - Cloud Computing Operating System - Web Desktop - Web OS - Web Office
http://www.eyeos.org/

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

FathomDB - Relational Database-As-A-Service On the Cloud
http://www.fathomdb.com/

FightAIDS@Home Distributed Computing Research Project
http://fightaidsathome.scripps.edu/

Flexiscale
http://www.flexiscale.com/

Folding@Home Distributed Computing
http://folding.stanford.edu/

Force.com - Cloud Computing for the Enterprise
http://www.Force.com/

Ganglia - Scalable Distributed Monitoring System for Clusters, Grids and Clouds
http://ganglia.info/

Genome@home
http://www.stanford.edu/group/pandegroup/genome/

GGF Document Process - Final Documents (Global Grid Forum)
http://www.ggf.org/documents/final.htm

GIS Working Group - Global Grid Forum Information Services Area Group Charter
http://www-unix.mcs.anl.gov/gridforum/gis/

Gladinet Cloud - Delivering Cloud Services to Your Desktop and Operating System
http://www.gladinet.com/

GoGrid
http://www.gogrid.com/

Google™ App Engine - Run Your Web Apps On Google's Infrastructure
http://code.google.com/appengine/

Google™ Apps - Software-As-a-Service for Business Email, Information Sharing and Security
http://www.google.com/apps/intl/en/business/index.html

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

GRACE - GRid seArch and Categorization Engine
http://www.ub.uni-stuttgart.de/grace/

GRID.ORG ™ - Grid Computing Projects
http://www.grid.org/

Grid Application and Deployment Projects
http://www-fp.mcs.anl.gov/~foster/grid-projects/

Grid Application Development Sofware Project (GrADS)
http://hipersoft.cs.rice.edu/grads/

GridBlocks
http://gridblocks.hip.fi/

GridCafe - The Place for Everybody To Learn About Grid Computing
http://www.gridcafe.org/

Grid Computing - IEEE Distributed Systems Online
http://dsonline.computer.org/gc/

Grid Computing Info Centre (GRID Infoware)
http://www.gridcomputing.com/

Grid Computing Planet
http://gridcomputingplanet.com/

Grid Forum
http://www.gridforum.org/

GridIron™ XLR8™
http://www.gridironsoftware.com/

GridLab: A Grid Application Toolkit and Testbed
http://www.gridlab.org/

Grid Market Directory (GMD)
http://www.gridbus.org/gmd/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Grid Markets Project
http://www.lesc.ic.ac.uk/markets/

GridMiner - Intelligent Grid Solutions
http://www.gridminer.org/

Grid Performance and Information Services (GGF)
http://www-didc.lbl.gov/GridPerf/

GridPP - UK Computing for Particle Physics
http://www.gridpp.ac.uk/

GridRepublic - Volunteer Computing
http://www.gridrepublic.org/

GridServer - Grid Computing for Business Critical Applications
http://www.datasynapse.com/

GridSim: A Grid Simulation Toolkit for Resource Modelling and Application Scheduling for Parallel and Distributed Computing
http://www.gridbus.org/gridsim/

GridSim Toolkit -- Resource Modeling and Scheduling Simultation
http://www.buyya.com/gridsim/

GRID'XY: IEEE/ACM Grid Computing International Workshop
http://www.gridcomputing.org/

GriPhyN - Grid Physics Network
http://www.griphyn.org/

Grub's Distributed Web Crawling Project
http://www.grub.org/

GVSS - Grid Virtual Screening Service
http://gvss2.twgrid.org/

HealthGrid Initiative
http://initiative.healthgrid.org/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Hipui UX Platform - Redefines Mobile User Experience with Cloud Apps
http://www.hipui.com/

IBM Cloud Computing
http://www.ibm.com/ibm/cloud/

IEEE Distributed Systems Online
http://dsonline.computer.org/

IEEE Task Force on Cluster Computing
http://www.ieeetfcc.org/

iland Workforce Cloud
http://www.iland.com/solutions/workforce-cloud

InfoChimps Platform - Big Data Platform in the Cloud
http://www.infochimps.com/

Institute of Parallel and Distributed Systems (IPVS)
http://www.ipvs.uni-stuttgart.de/start/en

International Journal of Cloud Computing (IJCC)
http://www.inderscience.com/browse/index.php?journalCODE=ijcc

International Journal of Grid and Distributed Computing (IJGDC)
http://www.sersc.org/journals/IJGDC/

Internet-based Distributed Computing Projects
http://distributedcomputing.info

IRIS: Infrastructure for Resilient Internet Systems
http://iris.lcs.mit.edu/

iSGTW - International Science Grid This Week
http://www.isgtw.org/

JCGrid Web (Java Grid Computing)
http://jcgrid.sourceforge.net/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Journal of Grid Computing
http://www.springerlink.com/link.asp?id=111140

JXTA Project
http://www.jxta.org/

Lawrence Berkeley National Laboratory - Above the Clouds: A Berkeley View of Cloud Computing
http://www.lbl.gov/CS/

LeechPack - The Ultimate Web Based Download Toolkit
http://www.leechpack.com/

LHC@home Distributed Computing Research Project
http://lhcathome.cern.ch/

LHC@home 2.0 Volunteer Computing Platform
http://lhcathome.web.cern.ch/LHCathome/Physics/

LIBOX - Your Media Your Way
http://www.libox.com/

Linked Data - Connect Distributed Data Across the Web
http://linkeddata.org/

Manchester HEP Grid Working Group
http://www.hep.grid.ac.uk/grid/

Manjrasoft - Innovative Cloud and Grid Computing Technologies
http://www.manjrasoft.com/

Mersenne Prime Search
http://www.mersenne.org/

Microsoft Cloud Computing Tools
http://msdn.microsoft.com/en-us/vstudio/cc972640.aspx

Microsoft Live Mesh
https://www.mesh.com/Welcome/default.aspx

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Milkyway@Home - Help Discover the Structures in the Milky Way Galaxy
http://milkyway.cs.rpi.edu/milkyway/

Mithral - Client-Server Software Development Kit (CSSDK)
http://www.mithral.com/products/cs-sdk/

MoneyBee
http://uk.moneybee.net/

MusicGrid - A Case Study in Broadband Video Collaboration by Hassan Masum, Martin Brooks, and John Spence
http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/issue/view/184

myGrid
http://www.mygrid.org.uk/

MyGrid - Open Source Grid and Grid Middleware
http://mygrid.sourceforge.net/

MysterNetworks - The Evolution of Peer-to-Peer
http://www.mysternetworks.com/

Nasuni - The Gateway to Cloud Storage
http://www.nasuni.com/

National Centre for eSocial Science (NCeSS)
http://www.ncess.ac.uk/

NetSolve GridSolve
http://icl.cs.utk.edu/netsolve/

Network World Fusion
http://www.nwfusion.com/

NeuroGrid - P2P Search
http://www.neurogrid.net/

NextGRID: Architecture for Next Generation Grids
http://www.nextgrid.org/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

NIST Cloud Computing Collaboration Site
http://collaborate.nist.gov/twiki-cloud-computing/bin/view/CloudComputing/WebHome

NIST Cloud Computing Definition
http://csrc.nist.gov/groups/SNS/cloud-computing/index.html

NMI-EDIT Consortium
http://www.nmi-edit.org/

NSF Middleware Initiative
http://www.nsf-middleware.org/

NVIDIA Tesla Personal Supercomputer
http://www.nvidia.com/object/personal_supercomputing.html

OGCE - Open Grid Computing Environments Collaboratory
http://www.ogce.org/

OneHub - Flexible Cloud to Share Files, Manage Projects and Online Collaboration
http://onehub.com/

Open Cluster Group
http://www.openclustergroup.org/

Open Data Grid
http://grid.okfn.org/

Open Grid Forum - Applied Distributed Computing
http://www.ggf.org/

Open-i Project - An Open Access Biomedial Image Search Engine
http://openi.nlm.nih.gov/

OpenNebula - The Open Source Toolkit for Cloud Computing
http://www.opennebula.org/

OpenP2P.com
http://www.openp2p.com/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

OpenSim - Open Grid Services
http://www.opensimulator.org/

Open Science Grid
http://www.opensciencegrid.org/

OSCAR : Open Source Cluster Application Ressources
http://www.csm.ornl.gov/oscar/

Otixo - Manage Your Online Services in the Cloud
http://www.otixo.com/

Parabon Computation - Internet Computing is Computing Outside the Box
http://www.parabon.com/

Parasitic Computing
http://www.nd.edu/~parasite/

Paremus - Redefining Enterprise Grid
http://www.paremus.com/

PCs Do Thousands of Years of Work By Jo Twist
http://news.bbc.co.uk/1/hi/sci/tech/4270241.stm

Peer to Peer Working Group - P2P WG - Internet2
http://p2p.internet2.edu/

PiCloud - Cloud Computing Simplified
http://www.picloud.com/

PlanetLab
http://www.planet-lab.org/

Platform GRID Computing
http://www.platform.com/

Primadesk - Search, Manage, and Backup Your Personal Cloud Data with One Simple Interface
https://www.primadesk.com/

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Proteins@home Distributed Computing Research Project
http://biology.polytechnique.fr/proteinsathome/

Public Data Sets on AWS
http://aws.amazon.com/publicdatasets/

PVM: Parallel Virtual Machine
http://www.csm.ornl.gov/pvm/

QADPZ - Quite Advanced Distributed Parallel Zystem
http://qadpz.sourceforge.net/

Quadrics
http://www.quadrics.com/

RackSpace Cloud - Cloud Computing, Cloud Hosting and Online Storage
http://www.rackspacecloud.com/

RadiotherapyGrid
http://www.isgtw.org/?pid=1002620

ReliaCloud - Cloud Computing, Cloud Hosting, Cloud Servers
http://www.reliacloud.com/

Repositories and the Cloud
http://www.eduserv.org.uk/events/repcloud

Reservoir - Infrastructure for Cloud Computing
http://www.reservoir-fp7.eu/

rPath - A Pragmatic, Incremental Approach to Cloud Computing
http://www.rpath.com/corp/cloud-adoption-model?pi_ad_id=2947665472&gclid=CLzfgpmhk5kCFQITswodsmUaZw

RSS Cloud
http://www.RSSCloud.org/

Sandglaz - Simply Powerful Todos
http://sandglaz.com/

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

SBGrid Consortium
http://sbgrid.org/

Secure Cloud Systems
http://www.SecureCloudSystems.com/

SIENA - Standards and Interoperability for eInfrastructure Implementation Initiative
http://www.sienainitiative.eu/

SIXTRACK - Research Project Using Internet Connected Computers to Advance Accelerator Physics
http://lhcathomeclassic.cern.ch/sixtrack/

SendGrid - Making Email Delivery Easy
http://sendgrid.com/

SETI@home: Search for Extraterrestrial Intelligence
http://setiathome.berkeley.edu/

SmartFrog - Smart Framework for Object Groups
http://www.hpl.hp.com/research/smartfrog/

Spinhenge@home Distributed Computing Research Project
http://spin.fh-bielefeld.de/

SpotCloud - Best Providers and Best Price
http://www.spotcloud.com/

Standing Cloud
http://www.standingcloud.com/

Stratos Learning - Cloud Computing Education
http://stratoslearning.com/

StratusLab - Enhancing Grid Infrastructures with Cloud Computing
http://www.stratuslab.eu/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Sun Grid Engine -- Data Sheet
http://wwws.sun.com/software/gridware/datasheet.html

Swarm - A Transparently Scalable Distributed Programming Language
http://code.google.com/p/swarm-dpl/

SyncDocs - Sync Your Documents with the Google Cloud
http://www.syncdocs.com/

SZTAKI Desktop Grid
http://desktopgrid.hu/

TeraGrid
http://www.teragrid.org/

Terremark Enterprise Cloud
http://www.theenterprisecloud.com/

The Beowulf Cluster Site
http://www.beowulf.org/

The ChessBrain Network
http://www.chessbrain.net/

The Cloud, Cloud Computing, Cloud Hosting, and Cloud Services
http://www.mosso.com/

The DataGrid Project
http://eu-datagrid.web.cern.ch/

The Globus Alliance
http://www.globus.org/

The GRIDS Lab and the Gridbus Project
http://www.gridbus.org/

The Open GRiD Project
http://www.ecsl.cs.sunysb.edu/~maxim/OpenGRiD/

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

The Semantic Grid
http://www.semanticgrid.org/

ThinkCycle - Open Distributed Collaborative Design
http://www.thinkcycle.org/

TOP500 Supercomputer Sites
http://www.top500.org/

UNICORE Distributed Computing and Data Resources
http://www.unicore.eu/

UPnP™ Forum
http://www.upnp.org/

University of Florida - OCEAN Project
http://www.cise.ufl.edu/research/ocean/

UShareSoft - Automated Software Applicance Creation and Maintenance
https://www.usharesoft.com/

vCloud at Carnegie Mellon
http://www.pdl.cmu.edu/vCloud/

VMLogix LabManager - Cloud Edition
http://www.vmlogix.com/VMLogix-LabManager-Cloud-Edition-Solution/

WaveMaker - Open Source Development Platform
http://www.WaveMaker.com/

Web Services Grid Application Framework (WS-GAF)
http://www.neresc.ac.uk/ws-gaf/

Wireless Grids: Squeezing a Grid Onto a Widget
http://www.isgtw.org/?pid=1002545

World Community Grid for Health Research
http://www.worldcommunitygrid.org

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Worldwide Virtual Computer - Legion
http://www.cs.virginia.edu/~legion/

WS GRAM - Grid Resource Allocation and Management (GRAM)
http://www-unix.globus.org/toolkit/docs/3.2/gram/ws/

XtremWeb - Opensource Platform for Desktop Grids
http://www.XtremWeb.net

Yahoo! Directory Computer Science > Distributed Computing
http://dir.yahoo.com/Science/Computer_Science/Distributed_Computing/

ZDNet - Grid Resources
http://updates.zdnet.com/tags/grid.html

ZeroPC - Cloud Connect and Search with Any Browser Using Cloud Computing
http://www.zeropc.com/

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Subject Tracer™ Information Blogs

Subject Tracer™ Information Blogs created and developed by the Virtual Private Library™ combine the best of the latest tools on the Internet. Using bots, blogs and news aggregators the Subject Tracer™ Information blogs generate RSS feeds with the latest resources to create a current information resource flow through niched subject tracers. I am proud to be the creator of the Internet's first Subject Tracer™ Information Blogs:

Virtual Private Library™
http://www.VirtualPrivateLibrary.com/

Agriculture Resources
http://www.AgricultureResources.info/

AnswerSpot
http://www.AnswerSpot.us/

Artificial Intelligence Resources
http://www.AIResources.info/

Astronomy Resources
http://www.AstronomyResources.info/

Auction Resources
http://www.AuctionResources.info/

Biological Informatics
http://www.BiologicalInformatics.info/

Biotechnology Resources
http://www.BiotechnologyResources.info/

Bot Research
http://www.BotResearch.info/

Business Intelligence Resources
http://www.BIResources.info/

ChatterBots
http://www.ChatterBots.info/

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Data Mining Resources
http://www.DataMiningResources.info/

Deep Web Research
http://www.DeepWebResearch.info/

Directory Resources
http://www.DirectoryResources.info/

eCommerce Resources
http://eCommerceResources.info/

Elder Resources
http://www.ElderResources.info/

Employment Resources
http://www.EmploymentResources.info/

Entrepreneurial Resources
http://www.EntrepreneurialResources.info/

Fact Checkers Directory
http://www.FactCheckers.us/

Financial Sources
http://www.FinancialSources.info/

Finding People
http://www.FindingPeople.info/

Games Resources
http://www.GamesResources.info/

Genealogy Resources
http://www.GenealogyResources.info/

Grant Resources
http://www.GrantResources.info/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Green Files
http://www.GreenFiles.info/

Grid, Distributed and Cloud Computing Resources
http://www.GridResources.info/

Healthcare Resources
http://www.HealthcareResources.info/

Information Futures Markets
http://www.InformationFutureMarkets.com/

Information Quality Resources
http://www.InformationQualityResources.info/

International Trade Resources
http://www.InternationalTradeResources.info/

Internet Alerts
http://www.InternetAlerts.info/

Internet Demographics
http://www.InternetDemographics.info/

Internet Experts
http://www.InternetExperts.info/

Internet Hoaxes
http://www.InternetHoaxes.info/

Intrapreneurial Resources
http://www.IntrapreneurialResources.info/

Journalism Resources
http://www.JournalismResources.info/

Knowledge Discovery
http://www.KnowledgeDiscovery.info/

http://www.zillmancolumns.com/
zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Military Resources
http://www.MilitaryResources.info/

New Economy Analytics, Resources and Alerts
http://www.NewEconomyAnalytics.com/

Outsourcing/Offshoring Information and Resources
http://www.OutsourcingOffshore.us/

Privacy Resources
http://www.PrivacyResources.info/

Reference Resources
http://www.ReferenceResources.info/

Research Resources
http://www.ResearchResources.info/

RestStress™
http://www.RestStress.com/

Script Resources
http://www.WcriptResources.info/

ShoppingBots
http://www.ShoppingBots.info/

Social Informatics
http://www.SocialInformatics.info/

Statistics Resources and Big Data
http://www.StatisticsResources.info/

Student Research
http://www.StudentResearch.info/

Theology Resources
http://www.TheologyResources.info/

Tutorial Resources
http://www.TutorialResources.info/

World Wide Web Reference
http://www.WWWReference.info/

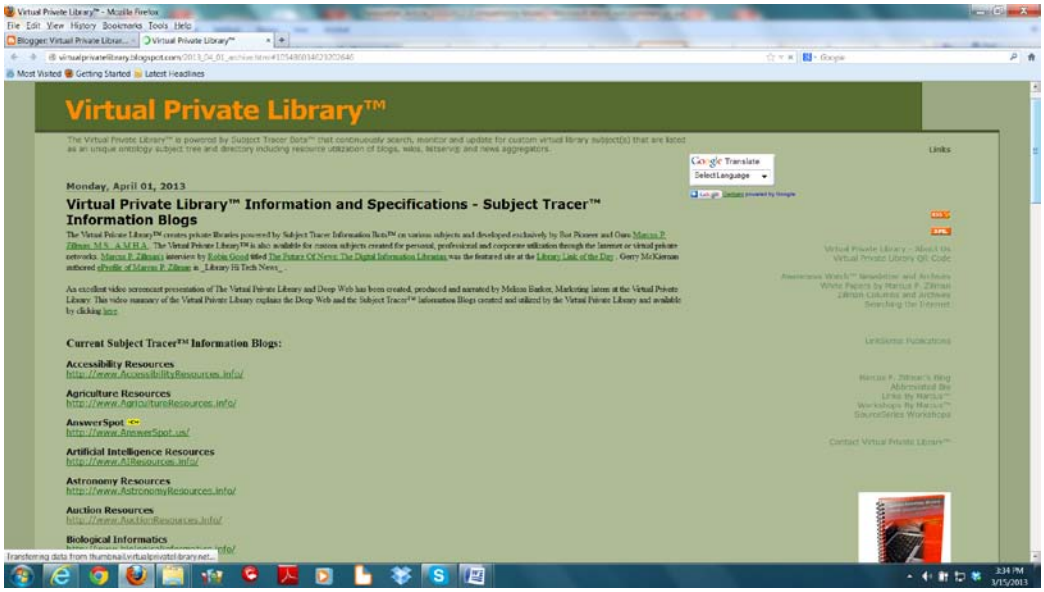

Figure 2: Virtual Private Library™

Author Information: Marcus P. Zillman, M.S., A.M.H.A. Executive Director of the Virtual Private Library is an international Internet expert, author, keynote speaker and corporate consultant in the area of information retrieval, knowledge discovery, knowledge harvesting, artificial intelligence and bots/intelligent agents. He has created numerous world wide web sites including 53 Subject Tracer™ Information Portals and Blogs; written a number of internet miniguides, white papers, manuals and books; hosted over 160 weekly Internet television shows, writes a weekly and monthly column on Current Awareness on the Internet; writes a monthly newsletter Awareness Watch and delivers keynote presentations throughout the international marketplace. He also actively delivers one and two day workshops for key industry sectors displaying how the Internet can be used as a tool to maintain current awareness and professional competencies. Additional websites by Marcus P. Zillman, M.S., A.M.H.A.:

Marcus P. Zillman's Blog
http://www.zillman.us/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Marcus P. Zillman Abbreviated Bio
http://www.zillman.info/

White Papers by Marcus P. Zillman
http://www.WhitePapers.us/

Internet MiniGuides™
http://www.InternetMiniguide.com/

Awareness Watch™ Newsletter
http://www.AwarenessWatch.com/

Marcus P. Zillman's Columns
http://www.ZillmanColumns.com

LinkSeries Publications
http://www.LinkSeries.com/

Internet Sources™ Manual
http://www.InternetSources.info/

Links By Marcus™
http://www.LinksByMarcus.com/

Workshops By Marcus™
http://www.WorkshopsByMarcus.com/

SourceSeries Internet Research Workshops
http://www.SourceSeries.com/

Watch Marcus™
http://www.WatchMarcus.com/

listen to marcus™
http://www.ListenToMarcus.com

Research White Papers, Articles, Lectures and Speeches by Marcus P. Zillman, M.S., A.M.H.A.:

Academic and Scholar Search Engines and Sources
http://www.ScholarSearchEngines.com/

Bots, Blogs and News Aggregators
http://www.BotsBlogs.com/

Business Intelligence Online Resources
http://www.BIOnlineResources.info/

Cloud Computing Resources Primer
http://zillman.blogspot.com/2011/05/grid-distributed-and-cloud-computing.html

Current Awareness Discovery Tools on the Internet
http://zillman.blogspot.com/2009/08/current-awareness-discovery-tools-on.html

Deep Web Research and Discovery Resources 2013 Article - LLRX and Online White Paper
http://zillman.blogspot.com/2012/12/llrx-deep-web-research-and-discovery.html
http://DeepWeb.us/

eReference Library Link Toolkit
http://www.eReferenceLibrary.com/

Finding Experts By Using the Internet
http://www.FindingExperts.info/

Finding People Resources and Sites
http://www.FindingPeople.info/

Healthcare Bots and Subject Directories
http://www.HealthcareBots.info/

Knowledge Discovery Resources 2013
http://www.KDResources.info/

New Economy Resources 2013
http://www.NewEconomyResources.com/

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

Online Research Browsers
http://zillman.blogspot.com/2009/08/online-research-browsers.html

Online Research Tools
http://www.OnlineResearchTools.info/

Online Social Networking
http://zillman.blogspot.com/2009/08/online-social-networking.html

Searching the Internet
http://www.SearchingTheInternet.info/

Using the Internet As a Dynamic Resource Tool for Knowledge Discovery
http://zillman.blogspot.com/2009/08/using-internet-as-dynamic-resource-tool.html

Web Data Extractors
http://www.WebDataExtractors.com/

Web Guide for the New Economy
http://www.WebGuideNewEconomy.com/

White Papers By Marcus P. Zillman, M.S., A.M.H.A.
http://www.WhitePapers.us/

Internet Tutor by Marcus P. Zillman, M.S., A.M.H.A.
http://www.InternetTutor.info/
Visit this site to learn about the availability of Marcus P. Zillman to tutor you or your associate one on one in the privacy of your residence or office on the latest happenings of the Internet including Internet basics to advanced Internet searching using bots and creating your own personal blog

Internet Speaking by Marcus P. Zillman, M.S., A.M.H.A.
http://www.InternetSpeaker.net
Visit this site to learn about Marcus P. Zillman's speaking engagements for your organization meetings and events. View and listen to his previous presentations as well as his weekly television shows

Internet Consulting by Marcus P. Zillman, M.S., A.M.H.A.
http://InternetConsultant.BlogSpot.com/
Visit this site to obtain information about obtaining the consultation services of Marcus P. Zillman for your company including eCommerce audits, utilization of bots, blogs and news aggregators or the creation of your own personal virtual private library powered by Subject Tracer™ Information bots!

Current Awareness Monitors, Alerts and Information Traps
http://www.ecurrentAwareness.com/
Marcus P. Zillman's latest report Current Awareness Monitors, Alerts and Information Traps is available for purchase online and for immediate download. This report is a comprehensive listing of the latest resources, sources and sites for current awareness on the Internet. This is a must read for anyone who must stay current in their profession and/or business activity as the list of URLs will keep you at the leading edge of your career.

Market Intelligence Resources
http://www.MarketIntelligenceResources.com/
Marcus P. Zillman's just released professional Internet MiniGuide is titled Market Intelligence Resources and is available for purchase online and immediate download. This 193 page digital miniguide represents a comprehensive listing of the latest resources, sources and sites to discover the latest Market Intelligence sources available on the Internet with many of them freely available! Designed specifically for today's entrepreneur, professional and/or investor.

Entrepreneurial Links 101
http://www.EntrepreneurialLinks.com/
Marcus P. Zillman's newly released 231 page eReference digital book for the up and coming entrepreneur. Entrepreneurial Links 101 gives an alphabetical listing of the very best Internet and World Wide Web sites covering Entrepreneur Resources, Business Intelligence Resources and an extremely comprehensive list of Online Research Tools. This is considered by many to be the entrepreneur's bible for finding relevant and competent online resources!

Internet Privacy and Security Resources
http://www.InternetPrivacySecurity.net/
Marcus P. Zillman's latest eReference digital publication is a selected comprehensive alphabetical listing of the latest resources and sites covering all aspects of privacy and security currently available over the Internet. From the board room to the family room,

zillman@VirtualPrivateLibrary.com
eVoice: (800) 858-1462

these resources and sites give you the information you need to maintain your privacy and security as you use the Internet in your business and personal life.

Research Resources Online Guide
http://www.ResearchResourcesOnline.net/
Marcus P. Zillman's latest LinkSeries Publication is a 340 page digital guide of a selected comprehensive alphabetical listing of the latest and greatest resources and sites covering all areas of research that is currently available over the Internet. The guide covers online research resources and tools for the Newbie to research as well as the Seasoned researcher. Contents include: a) Research Resources, b) Research Tools, c) Student Research Resources Toolkit, d) Knowledge Discovery/Management and Data Mining Resources, e) Knowledge Discovery/Retrieval and the World Wide Web Resources, f) Business Intelligence Resources, g) Reference Resources, and h) Subject Tracer™ Information Blogs.

The Survivor's Manual for The New Economy.
http://www.NewEconomyManual.com/
Marcus P. Zillman's latest LinkSeries Publication is a 239 page digital read that gives excellent resources and annotated sources for the new economy analytics, alerts, ecommerce, financial sources, invisible and deep web resources, social and business networking sources along with new economy competitive and business intelligence resources and an extremely comprehensive listing of new economy online tools.