www.proisec.info/default.aspx

PROJECT INFORMATION SECURITY (PROISEC) PORTAL

BY

VIJAI RAJAGOPALAN

LEWIS UNIVERSITY

DECEMBER 6th 2008

TABLE OF CONTENTS:

ABSRACT:

Web portals are entry points for information presentation and exchange over the Internet used by a community of interest. Enriching web applications with personalized data is of major interest for facilitating the user access to the published contents, and therefore, for guaranteeing successful user navigation. Current Web technologies employed to build up these portals present serious limitations regarding facilities for searching, accessing, extracting, and security for processing information. These limitations are naturally inherited by existing portals, thus hampering the communication and information sharing process between community members. The application of Microsoft office SharePoint portal technologies has the potential of overcoming these limitations and, therefore, they can be used to enhance Web portals. This paper presents the state of the art application of Microsoft office SharePoint portal in web portals and the improvements achieved by the use of such technologies.

INTRODUCTION:

The World Wide Web has made a huge amount of information electronically available, and is an impressive success story in terms of both available information and the growth rate of human users. The Web has evolved from an in-house solution for around 1000 Users in 1990 to more than 1 billion users and more than 1 billion documents not only world-wide but also device-wide. This success has been based mainly on its simplicity, giving software developers, information providers and users easy access to new content. Nevertheless, the same simplicity that made the impressive expansion of the Web possible has brought important and in some cases critical, drawbacks that are hampering a further development of the Web. Within traditional Web applications, the user navigation follows the predefined hypertext structure. Therefore, finding contents requires the user understanding of the Web site outline, which is not always obvious. Enriching the Web application with personalized recommendations provides alternative paths to published data, and increments the possibilities for the user to find the contents he is interested in. However, the effectiveness of personalization is based on the quality of the user profile and of the relations among the content objects.

So far, various communities have taken advantage of the current Web functionalities to strengthen communication and information exchange not only within the community but also with external communities or individual users. Miscellaneous web portals have appeared with the purpose of providing an open and effective communication forum for their members. In a prototypical case, a portal collects and presents relevant information for the community, and users can publish events or information to the community. Portals provide facilities for users to locate interesting information in the portal according to their personal preferences, topics, etc. In some cases, users with common interests can build their own specific community inside the general community to submit and share

information about a given topic.

The general problem to find information on the Web: searches are imprecise, often yielding matches to many thousands of hits. Moreover, users face the task of reading the documents retrieved in order to extract the information desired. These limitations naturally appear in existing Web portals based on this technology, making information searching, accessing, extracting, interpreting and processing a difficult and time-consuming task. MOSS offers many features and advantage over other portals. Office SharePoint Server 2007 provides a single integrated platform to manage intranet, extranet, and Internet applications across the enterprise.

- Business users gain greater control over the storage, security, distribution, and management of their electronic content, with tools that are easy to use and tightly integrated into familiar, everyday applications.
- Organizations can accelerate shared business processes with customers and partners across organizational boundaries using InfoPath Forms Services–driven solutions.
- Information workers can find information and people efficiently and easily through the facilitated information-sharing functionality and simplified content publishing. In addition, access to back-end data is achieved easily through a browser, and views into this data can be personalized.
- Administrators have powerful tools at their fingertips that ease deployment, management, and system administration, so they can spend more time on strategic tasks.
- Developers have a rich platform to build a new class of applications, called Office Business Applications, which combine powerful developer functionality with the flexibility and ease of deployment of Office SharePoint Server 2007. Through the use of out-of-the-box application services, developers can build richer applications with less code.

MOSS 2007 OVERVIEW:

Microsoft office SharePoint server is a server application that facilitates collaboration, provide comprehensive content management, implement business process, and provide access to information that is essential to organizational goals and process. They provide an integrated platform to plan, deploy and manage intranet, extranet, and internet application. Office SharePoint Server 2007 supports all intranet, extranet, and Web applications across an enterprise within one integrated platform, instead of relying on separate fragmented systems.

Microsoft Office SharePoint Server is the third release of Microsoft's portal offering. A *Portal* is a central web site that can be used to organize and distribute company / business information. The portal components in MOSS 2007 provide technology to facilitate connections between people within the organization who have the required skills, knowledge, and project experience.

FEATURES:

- User Profile: Each user has a set of attribute, such as a phone number or workgroup, which constitute a user profile. Users can control which attribute in their user profile can be viewed by others.

- Quickly Connect People With Information**:** Enterprise Search in Office SharePoint Server 2007 incorporates people and business data along with documents and Web pages to provide more comprehensive results. This provides a single integrated location for employees to find content, processes, people, and business data relevant to their specific needs.

- My Site**:** Each user can have his or her own personal site named My Site. This site allows users to store their own content and can serve as a central starting point when they are looking for information. Content in My Site can be designated as a private or public to control whether other users have access to the content.

- Control Documents Through Detailed, Extensible Policy Management**:** Define customized document management policies to control access rights at a per-item level, specify retention period and expiration actions, and track content through document-auditing settings. Policy integration with familiar client applications makes compliance transparent and easy for employees. Integration with Information Rights Management helps ensure that proprietary and confidential information is better protected even if it is not connected to a server.

- Process Automation: Adding business rules, approval, and forms to business process.

- Portals: Intranet / extranet internal and external facing portals.

MOSS ARCHITECTURE:

- Portal Topology**:** How servers and services are configured and deployed to provide the engine that runs an organization's portal.

- Server Farm: A collection of servers that work together to provide your SharePoint services

- Server Roles: Servers can be configured with different services so that they plan unique roles within your SharePoint deployment

- Web front end: Delivers web pages and process business logic

- Application server: Provides services to the farm such as indexing, search, excel calculations, and project server.
- Database: Runs the SQL Server databases.

For Proisec portal I choose a small server farm topology. A small server farm topology separates the SQL Server backend from SharePoint front end. MOSS front end can be one or two servers, one run all the services and are configured as web servers managing client requests and application servers providing shared services roles. A small server farm typically consists of less than 50,000 users. Multiple front ends can provide some protection from failure.

INTEGRATING WITH NETWORK INFRASTRUCTURE:

Providing Authentication**:** There are several options available to provide SharePoint authentication. The goal is choosing the authentication method appropriate for your organization is to only require one logon by the user (single sign on) and to use any existing authentication infrastructure.

Active Directory:

Active directory is default authentication option for organization that primarily uses a Microsoft server infrastructure. MOSS integrates nicely with AD out of the box. AD directory management web service is provided in SharePoint.

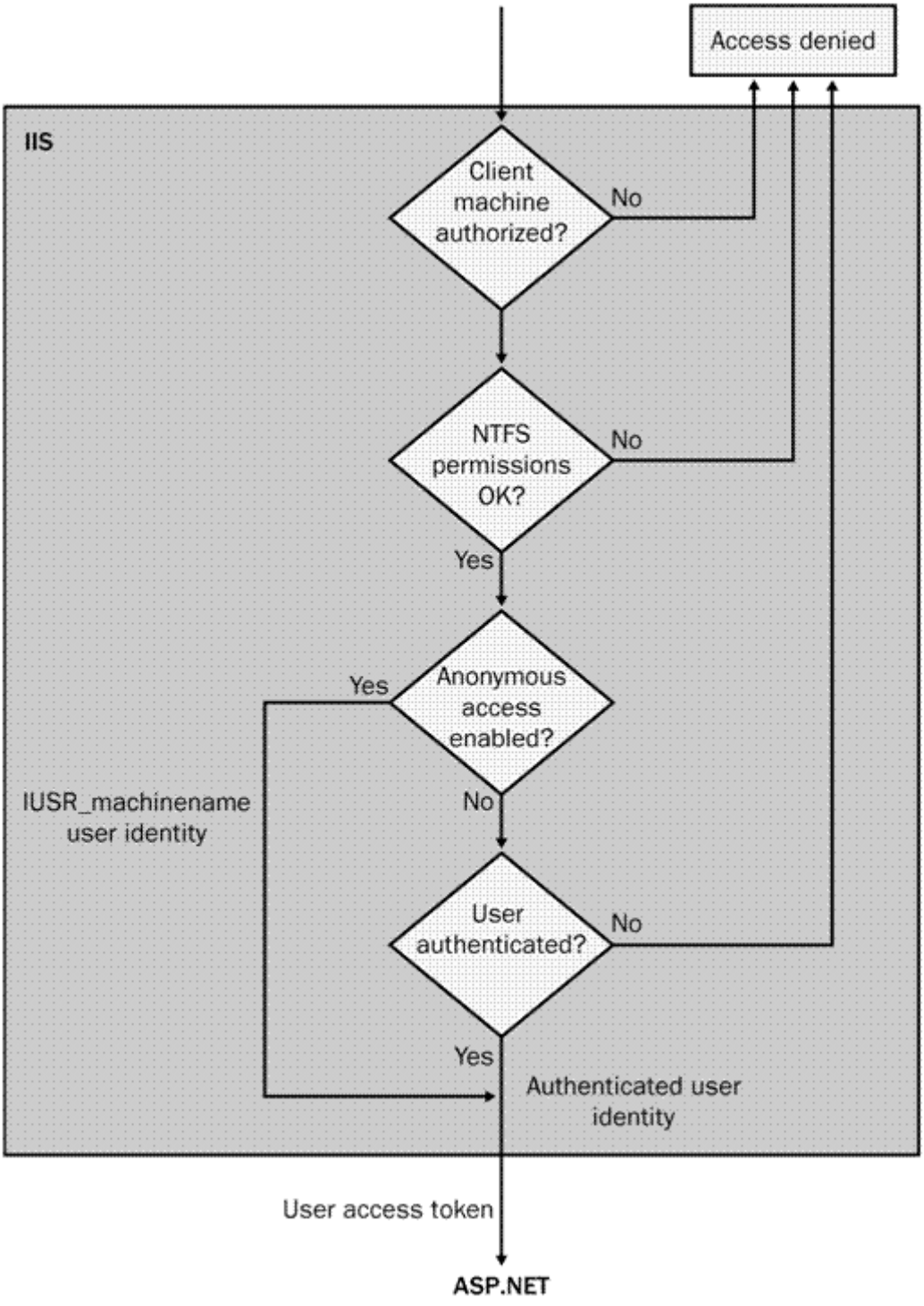
SQL Server Authentication:

As with the form-based authentication method, it is now possible to bypass Windows authentication and authenticate directly with SQL Server. For Proisec farm configurations, the back-end database server is running SQL Server 2005.

Moss Authentication:

MOSS site and IIS performs the user validation using the authentication method that is configured for the environment. If the user authentication is successful, then MOSS renders the web pages based on the access level of the user. If authentication fails, the user is denied access to the MOSS site. Authentication methods determine which type of identity directory can be used and how users are authenticated by IIS. MOSS supports three methods of authentication: Windows, ASP.NET Forms, and Web Single Sign-On.

Windows Authentication is the most common authentication type used in MOSS intranet deployments because it uses Active Directory to validate users. When Windows Authentication is configured, IIS uses the Windows authentication protocol that is configured in IIS. NTLM, Kerberos, certificates, basic, and digest protocols are supported.



The ASP.NET Forms authentication method is commonly used in situations where a custom authentication provider is required. In other words, where a custom LDAP, SQL Server, or other type of identity repository will be storing user account information. This

is common in extranet environments, such as partner collaboration sites, where it is not practical to create Active Directory user accounts for users or a different type of directory is required.

The Web Single Sign-On authentication method is used in environments that have federated identity systems or single sign-on systems configured. In this type of environment, an independent identity management system integrates user identities across heterogeneous directories and provides the user validation for IIS.

HARDWARE REQUIREMENTS:

The following table lists the minimum and recommended hardware requirements for deploying an Office SharePoint Server 2007 front-end Web server.

Component	Minimum	Recommended
Processor	2.5 GHz	Dual processors that are each 3 GHz or faster
RAM	2 GB	More than 2 GB
Disk	NTFS file system–formatted partition with a minimum of 3 GB of free space	NTFS file system–formatted partition with 3 GB of free space plus adequate free space for your data storage requirements
Drive	DVD drive	DVD drive or the source copied to a local or network-accessible drive
Display	1024 × 768	1024 × 768 or higher resolution monitor
Network	• 56 Kbps connection between client computers and server • For connections between computers in your server farm, 100 Mbps connection	• 56 Kbps or faster connection between client computers and server • For connections between computers in your server farm, 1 Gbps connection

SOFTWARE REQUIREMENTS:

The servers must be running Windows Server 2003 (Standard, Enterprise or Datacenter edition) with Service Pack 1. Your servers must be using the NTFS file system. SharePoint will run on both 32 bit and 64 bit processors with the corresponding versions of Windows Server.

Prerequisite:

- Install IIS: If your front-end server s has not already been configured with Internet Information Services, you must add it and configure it to run in worker isolation mode before installing SharePoint. If you already have IIS installed, you will need to configure IIS in worker isolation mode.

- Install .NET 3.5: You must install .Net 3.5 / 3.0 before you install MOSS

- Install SQL Server: You must install SQL before starting the SharePoint install if you are using any of the farm topologies or have chosen not to use SQL Server Express with your single server installation. If you SQL Server 2005 is already installed make sure to configure the connection.

FIREWALL CONFIGURATION:

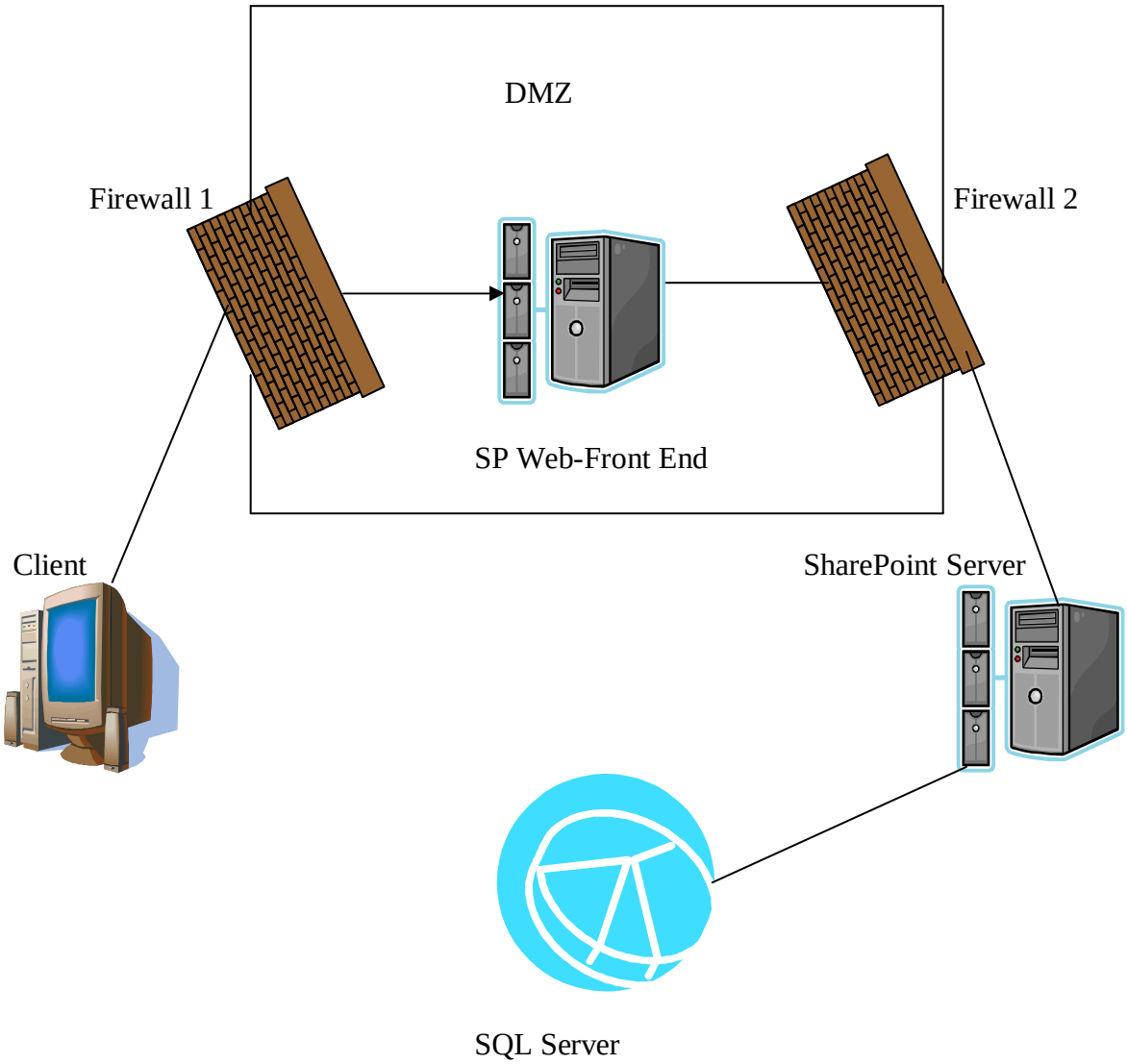
Publishing content from one server to another exposes the data to security threats. Some of the common threats related to moss environment are:

- Network Eavesdropping: Using monitoring network software, an attacker could intercept data moving from the web server to the application server and from the application server to other systems and databases.

- Unauthorized access: Via ports used by SharePoint, an attacker could try to communicate directly with the server.

Most servers are hosted behind a firewall and we consider a firewall a minimum security requirement. The lines between internet and extranet are easier to cross with technology like MOSS, Proper configuration of security is critical to these environments.

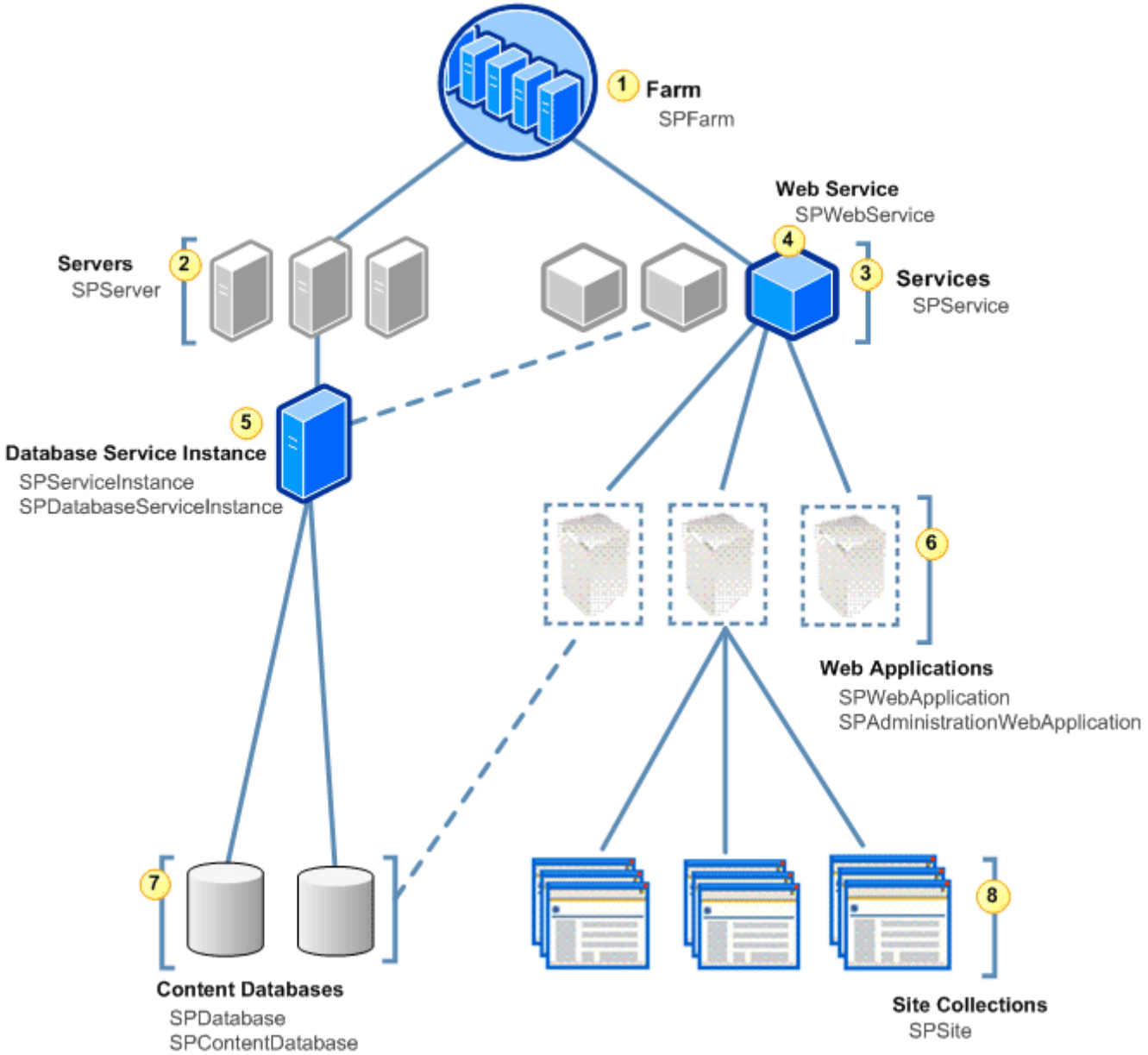
A typical firewall configuration for both internet and extranet is show bellow:



You can use the settings for your firewall to block access to the administrative port altogether (if you don't need to allow administration over the Internet), or to restrict access to the administrative port to certain domains. Use the stsadm -o setadminport operation to set each server in your server farm to the same port number, and configure the firewall to help protect that port on all servers. Alternatively, you can use the IP and name restrictions feature in IIS to restrict access to specific domains (you must set this for each virtual server that you want to restrict access to).

SERVER ARCHITECTURE:

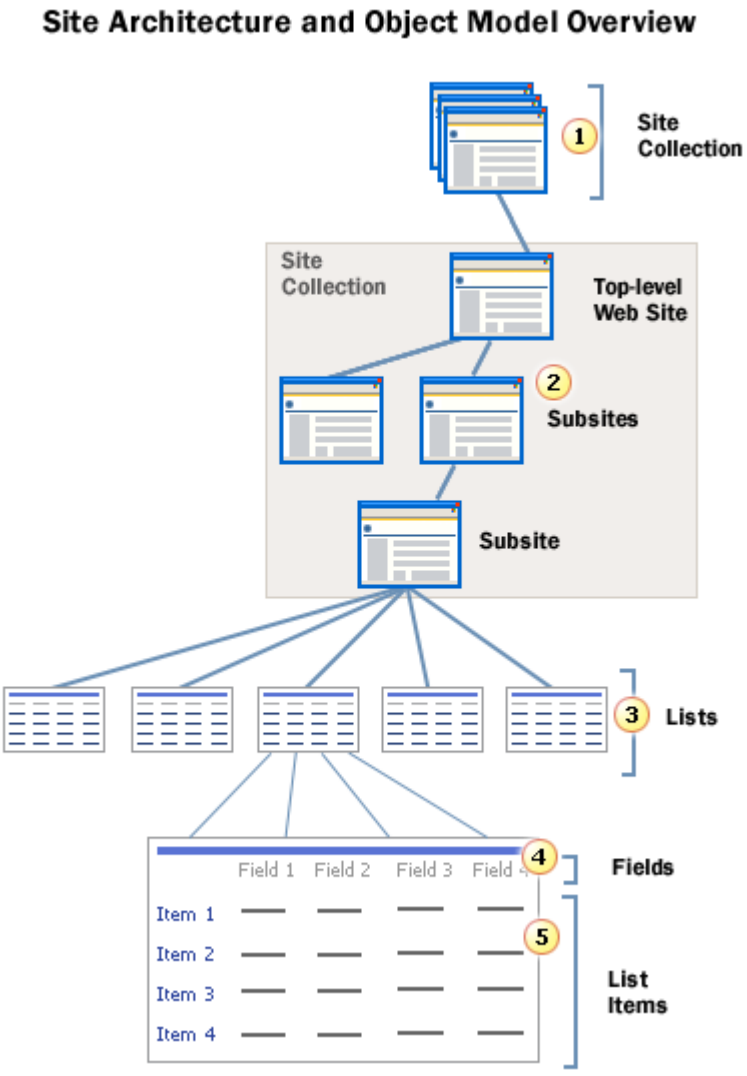
1. The SPFarm object is the highest object within the Windows SharePoint Services object model hierarchy. The Servers property gets a collection representing all the servers in the deployment, and the Services property gets a collection representing all the services.



2. Each SPServer object represents a physical server computer. The ServiceInstances property provides access to the set of individual service instances that run on the individual computer.
3. Each SPService object represents a logical service or application installed in the server farm. A service object provides access to server farm-wide settings of the load-balanced service that a respective service instance implements. Derived types of the SPService class include, for example, objects for Windows services, such as the timer service, search, Microsoft SQL Server, the database service, etc. and also objects for Web services, such as Windows SharePoint Services or services in the Microsoft Office system.
4. An SPWebService object provides access to configuration settings for a specific logical service or application. The WebApplications property gets the collection of Web applications that run the service.
5. An SPDatabaseServiceInstance object represents a single instance of a database service running on the server computer. The SPDatabaseServiceInstance class derives from the SPServiceInstanceclass and thus inherits the Service property, which provides access to the service or application that the instance implements. The Databases property gets the collection of content databases used in the service.
6. Each SPWebApplication object represents a load-balanced Web application based in Internet Information Services (IIS). The SPWebApplication object provides access to credentials and other server farm wide application settings. The Sites property gets the collection of site collections within the Web application, and the ContentDatabases property collection of content databases used in the Web application. The SPWebApplication class replaces the obsolete SPVirtualServer class; but it can still be helpful to think of a SPWebApplication object as a virtual server; that is, a set of one or more physical servers that appear as a single server to users.
7. An SPContentDatabase object inherits from the SPDatabase class and represents a database that contains user data for a SharePoint Web application. The Sites property gets the collection of site collections for which the content database stores data, and the WebApplication property gets the parent Web application.

SITE ARCHITECTURE:

Each SPSite object, despite its singular name, represents a set of logically related SPWeb objects (see below).



- Each site collection includes any number of SPWeb objects, and each object has members that can be used to manage a site, including its template and theme, as well as to access files and folders on the site. The Webs property returns an SPWebCollection object that represents all the subsites of a specified site, and

the Lists property returns an SPListCollection object that represents all the lists in the site.

- Each SPList object has members that are used to manage the list or access items in the list. TheGetItems method can be used to perform queries that return specific items. The Fields property returns an SPFieldCollection object that represents all the fields, or columns, in the list, and theItems property returns.
- A SPListItemCollection object that represents all the items, or rows, in the list.For example Proisec.info is top level website and Proisec.info/blogs blogs become subsite.
- Each SPField object has members that contain settings for the field. And Each SPListItem object represents a single row in the list.

PROISEC:

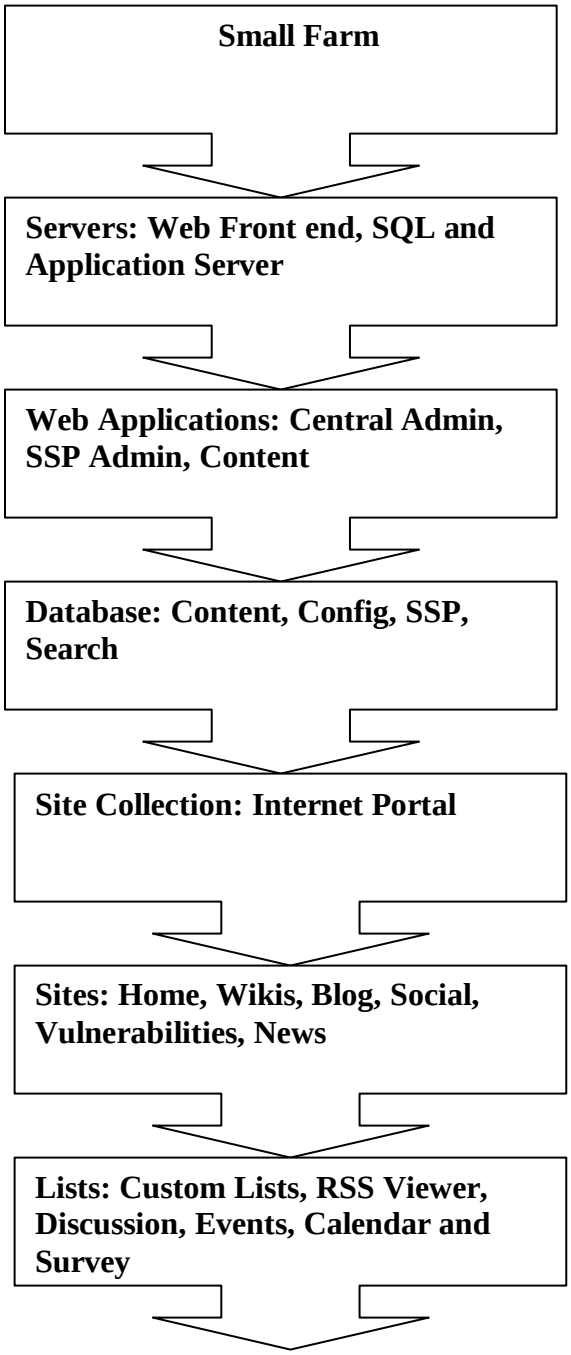
PROISEC stands for project information security I wanted to initially call this portal Prosec but I there was a domain name with Prosec name already so I changed it to Proisec.This site http://proisec.info/default.aspx is beta version demonstrating the maturity of security and technology in a real application.

ProiSec web portal provides general intelligence on information security and could offer customized, specific content available to you based on your roles (e.g., faculty, student, and administrator). Roles help the portal determine your privileges for reading, editing, searching, updating, and personalizing content.

The portal uses the information stored in the roles to offer the appropriate content and service choices. And also provides an easy-to-use portal where users, workgroups & collaborators can connect and share information. The ProiSec portal will include – Vulnerabilities and Threat information, Security Policies, News, Tools and downloads, Blog post, Wikis, Papers, Alerts and Industry Event.

This ProiSec portal helps MSIS students stays connected which includes MSIS alumni as well as present MSIS students and share valuable information. This portal is a reference guide for practitioners, researchers, and students seeking information about information security. The hierarchy of the portal and site collection is illustrated bellow using water fall model: First we have the server farm setup since this is portal is targeted for less than 50,000 users. The server farm setup is having web frontend, database server and application server separate. One widely held misconception about SharePoint 2007 is that a Web Application can only span a single Content Database. The truth is that a Web Application can span multiple Content Databases; the limitation is at the Site Collection level.

PROISEC CONTAINMENT:



SharePoint backend architecture consist of 4 SQL databases we have 3 databases that actually store the SharePoint content. The site database (servername_site) contains

information stored in site and site collections. The server dabase (servername_serv) contains information about server specific settings. The profile database (servername_prof) contains information about imported user profiles. The fourth one is storing the SharePoing configuration setting and is called configuration database and is physically stored as servername_config in SQL.

A server farm, also known as a server cluster, is a collection of servers maintained by an enterprise to accomplish server needs far beyond the capability of a single machine. Oftentimes, server farms will have both a primary and backup server dedicated to a single task, so that in the event of primary machine failure, a backup will take over immediately. Forms enable organizations to efficiently gather structured information that they can later access and analyze for business value. Data and metadata from these forms is then immediately accessible so people can take action. For example, a company could deploy a questionnaire form on an external Web site, and internal marketing analysts could see the results updated in real time, for example, the zip codes of participants could be represented visually on a map displayed in their SharePoint portal site workspace

HOME:

The home page includes event,calendar,survey, announcement, discussion,shared documents, image, search and links webparts. The portal also has other subsites namely: news, tools & dowloads, white papers, exploits,wiki,blog and msis social along with quick left navigation bar. The home page includes information security policy and compliance list which are custom lists.

Site Template:

Site temples can users be more productive by creating sites that are already populated with lists, functionality and some design elements. MOSS provides many templates for collaboration, meetings, and enterprise functionality. Site templates can be applied to both sub-sites and site collections.

Using Collaboration Template

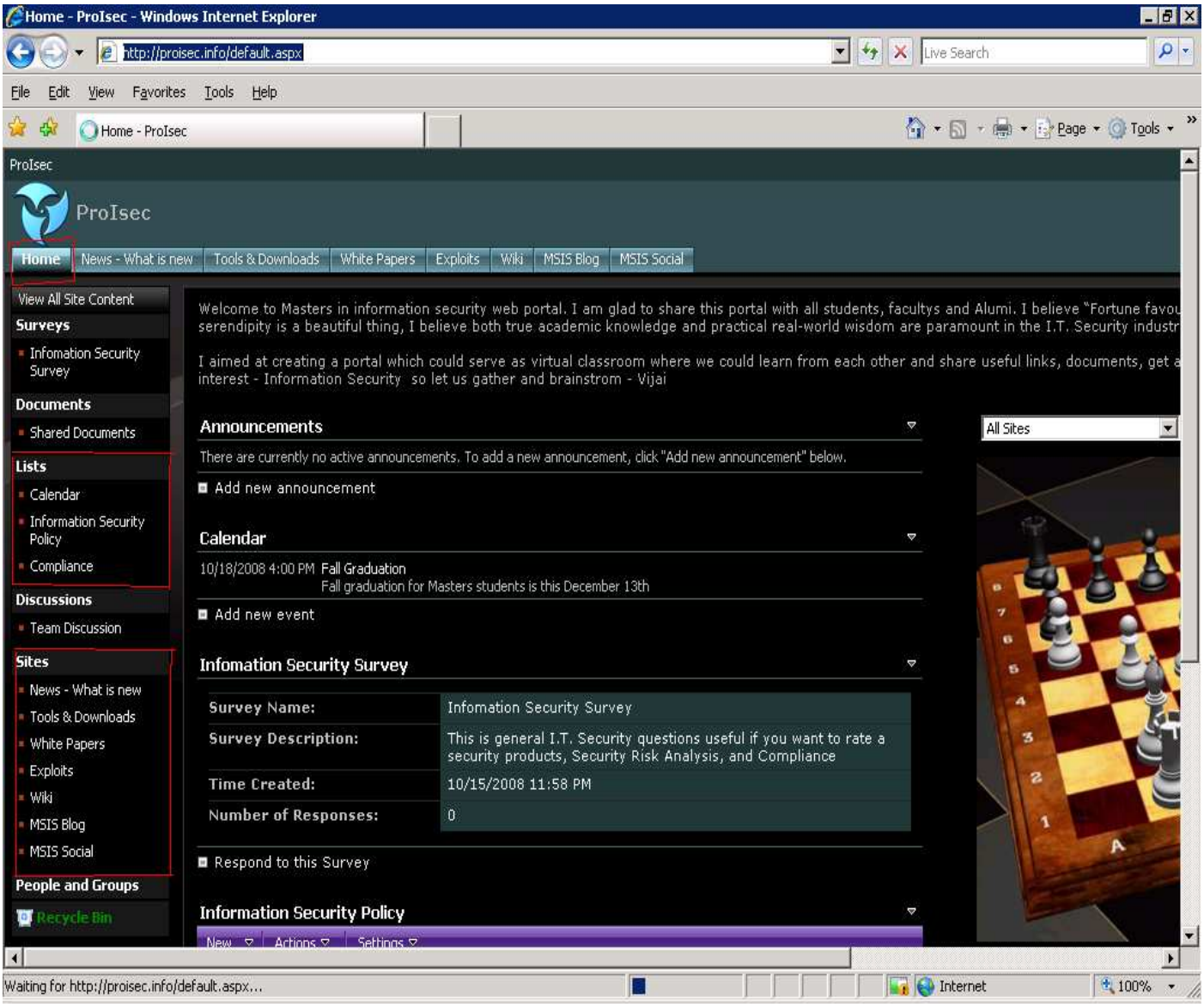
Collaboration templates are focused on creating the elements most often used in team collaboration. As with all the templates, the goal is to provide something for teams to start with so that they are not looking at a blank site and wondering where to get started.

Team Site Template

The home page of Proisec is Team Site Template (with some modifications). Team Site Template is the most versatile and most used template, probably because it is the default,

top of the list selection. When you select team site template, SharePoint creates a site that has a document library, four empty lists, and a discussion board.

Screen Shot – Proisec.info Home Page



As seen from the screenshot the Home tab has the site welcome message along with lists and sub sites in the left navigation bar.

Note: The site features are based on user privilege the screen shot was taken with portal administrator privilege.

Lists:

- Announcement: The Announcement list is designed for adding short news articles for consumption on the local site. The list creates a list to support the article title, body and expiration date. The web part created for announcement list automatically filters based on expiration date so that only unexpired items are presented.

- Calendar: Calendar lists are used for storing even, milestone or other date based information.

- Links: Links lists simply store URL, friendly name and description of the sites that you want to link to. The friendly name appears in most views and is configured to link to the URL provided. As with any list that uses the hyperlink style column, you must be in the item's edit mode to configure the friendly name field.

- Survey: The survey list template creates a framework so that you can create survey questions of different types ratings, multiple choice and allow users to respond to one or more choice. The survey functionality also allows you to create branching logic that selects the questions presented based on the answer to a specific question. The survey list template provides a graphical interface to view all submitted response.

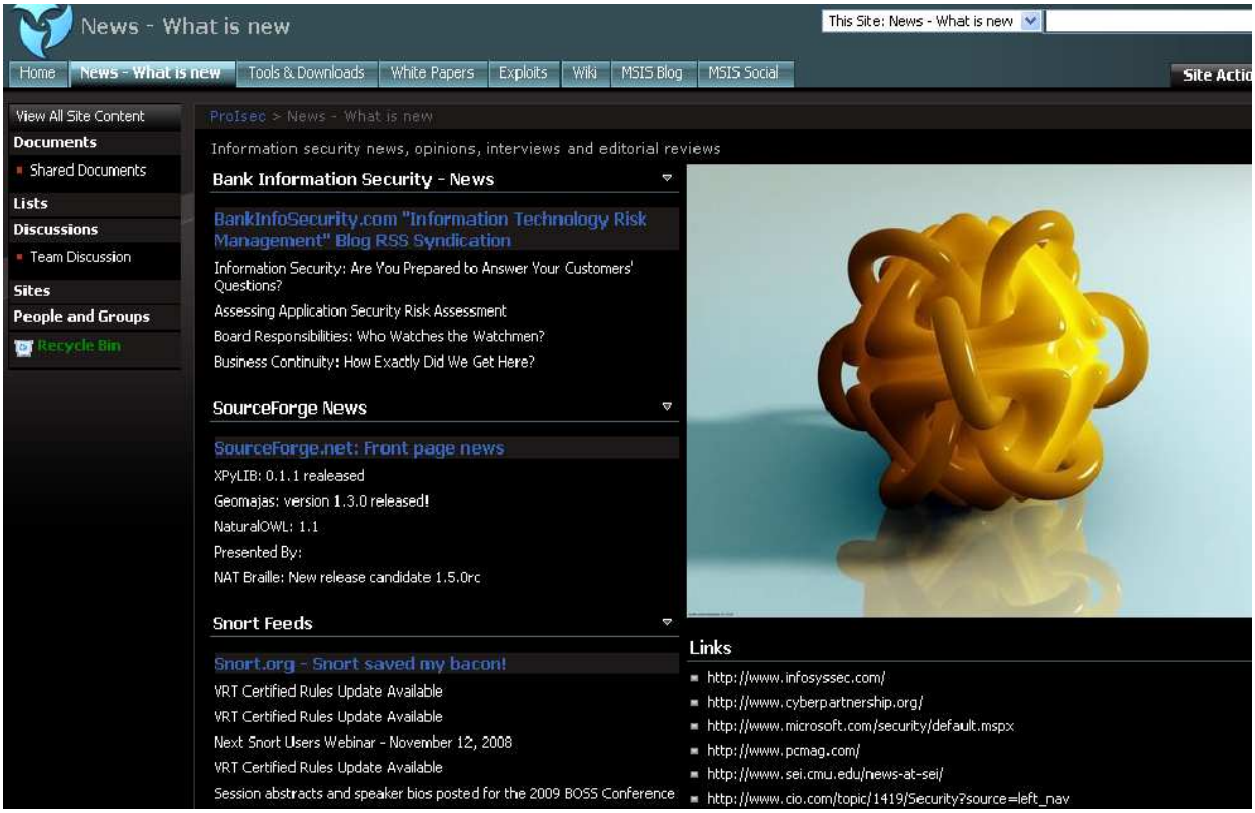
- Document Library: The document library template provides a document that can store any type of object that is allowed by the file include list.

- Information Security Policy: The information security policy is a custom list that holds several security policies. Users can download policy and privileged users can upload policies in this list.

- Compliance: The compliance list is a custom list that holds compliance related and supporting documents.

NEWS:

The news site is designed to be center for information security news. This includes providing a place for publishing news within a group and a place for consuming news that is published by other sources namely: snort, bank information security, source forge, search security

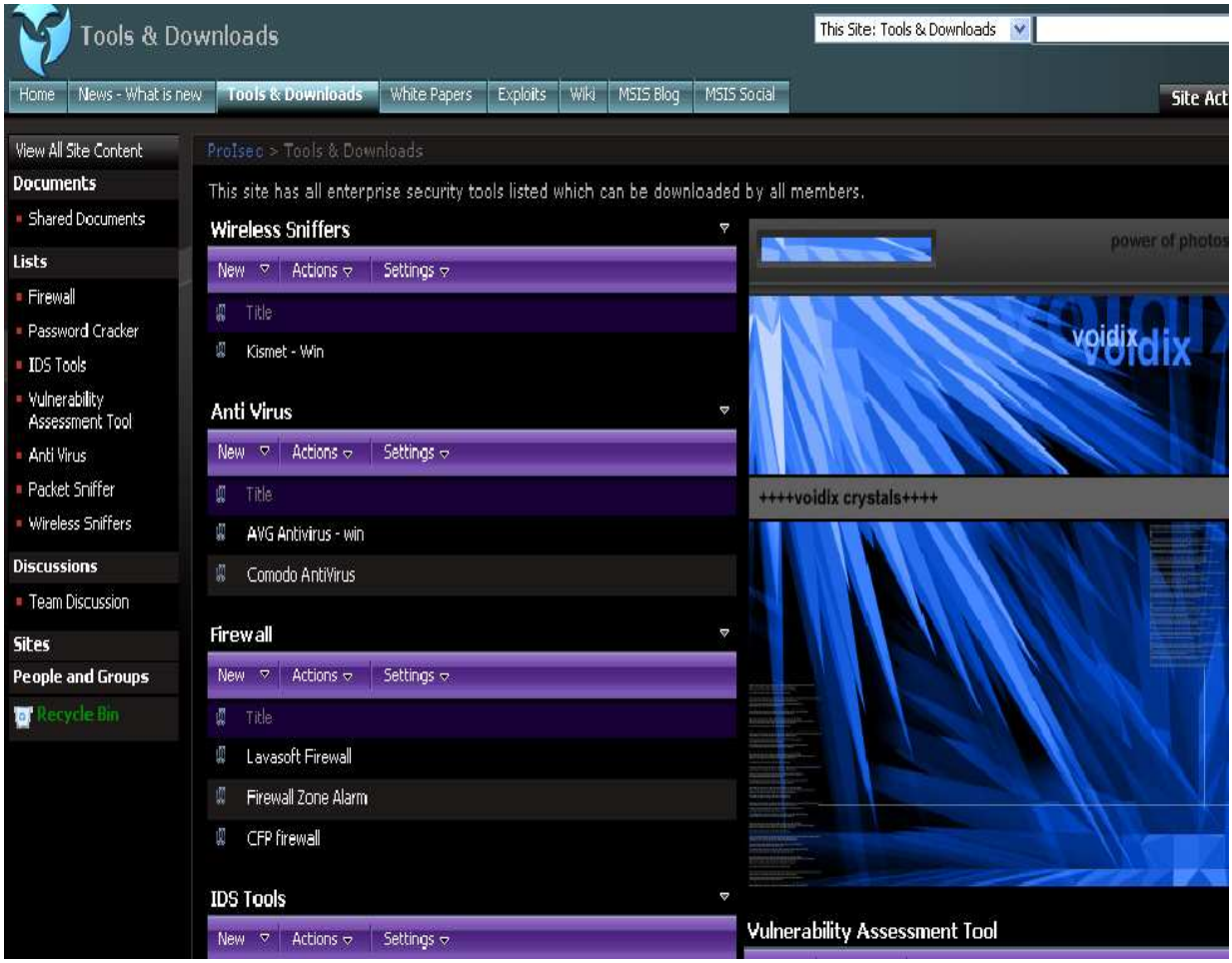


Security bytes and infosecurityus using RSS feed. The news source is RSS enabled, you can use the link to subscribe RSS feed to populate the RSS viewer web part. The RSS viewer render RSS feed. To configure this web part, you must have the URL of the feed to which it is subscribed and configure the number of items that you want to display. You can also choose to show the feel title and description.

The news site also has links web part which has useful URL related to headlines and quick updates relating to information / network security.

TOOLS & DOWNLOADS:

The tools & downloads is designed as the place for exchanging and trying new software's / enterprise security tools. The tools & downloads site allows privileged users to upload software's and all users have rights to download any software from the list of available software's.

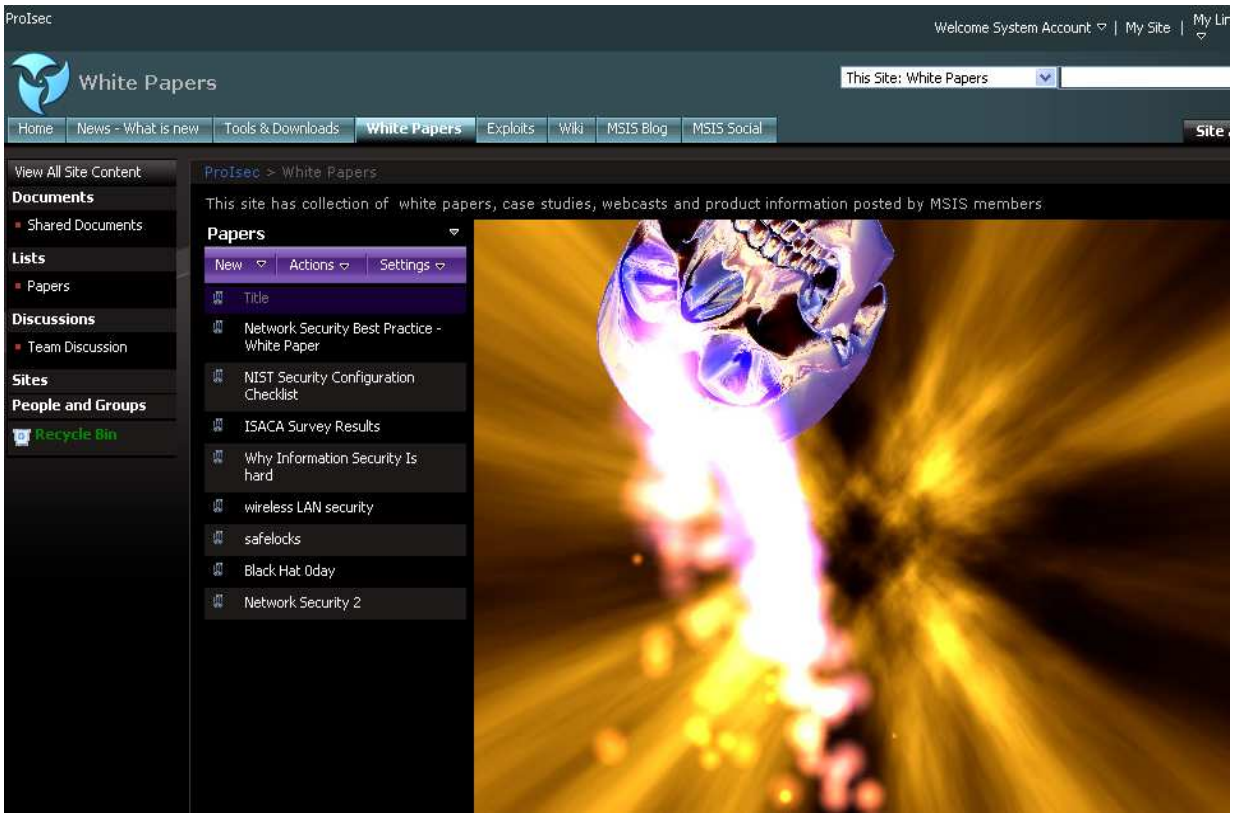


This site has seven custom lists as you can see from the screenshot above the seven custom lists are in left.

The seven custom lists are firewall, password cracker, ids, and vulnerability assessment tool, packet sniffer, anti virus & wireless sniffers. All these seven custom lists are imported to this site to make it user friendly. The in build anti virus feature in MOSS scans the files before uploading into the portal.

WHITE PAPERS:

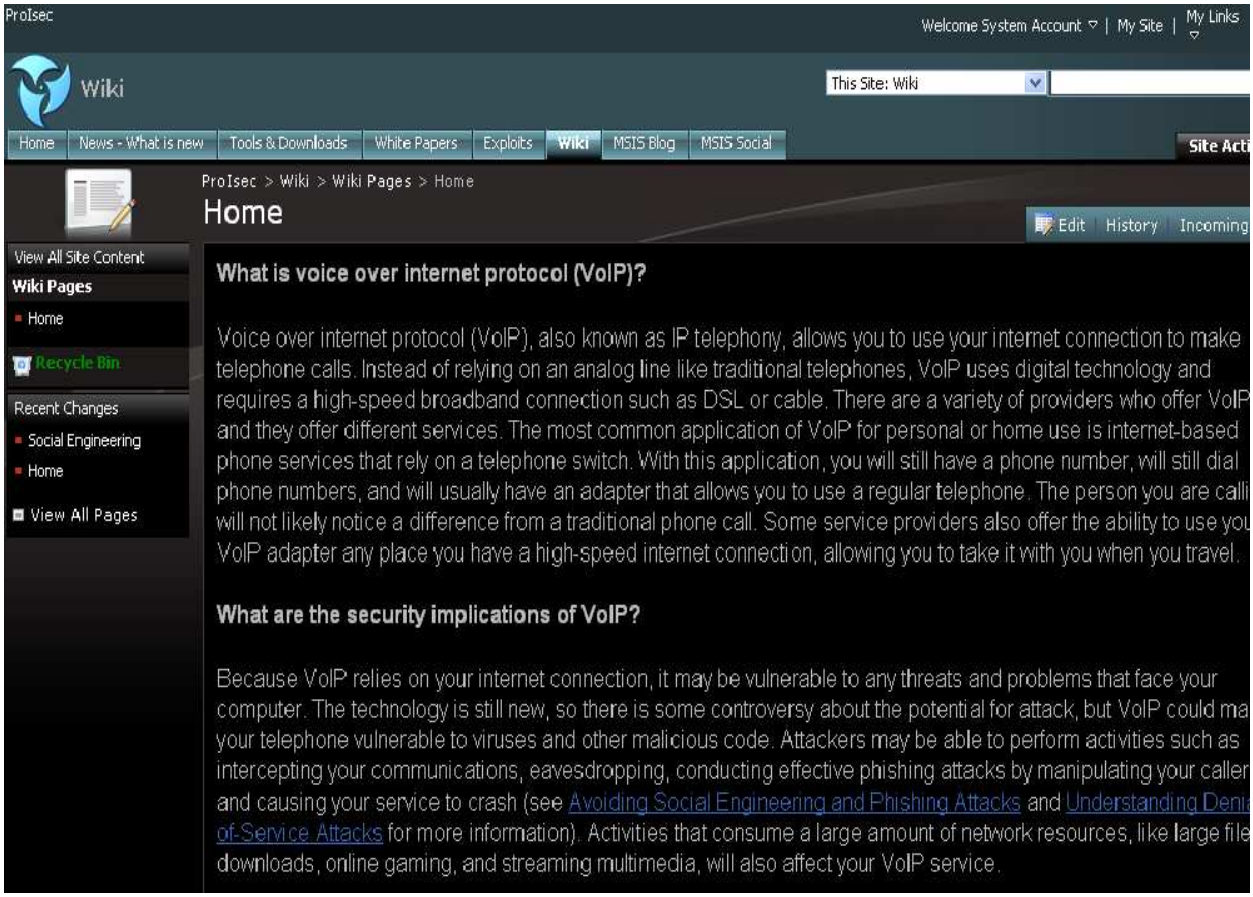
The white papers site is designed to upload and share existing information security related papers these can included papers written by experts in this industry and it also include papers written by MSIS students, alumni etc. This site has a simple layout with only one custom list and has the same team site template to maintain the uniformity with the top level site namely www.Proisec.info/default.aspx.



Screenshot: Above shows the Papers list which has all white papers included to the custom list.

WIKIS:

Wiki which means quick in Hawaiian a site created from the wiki site template has a wiki page library created and is intended for quick web page editing and collaboration by nontechnical users.



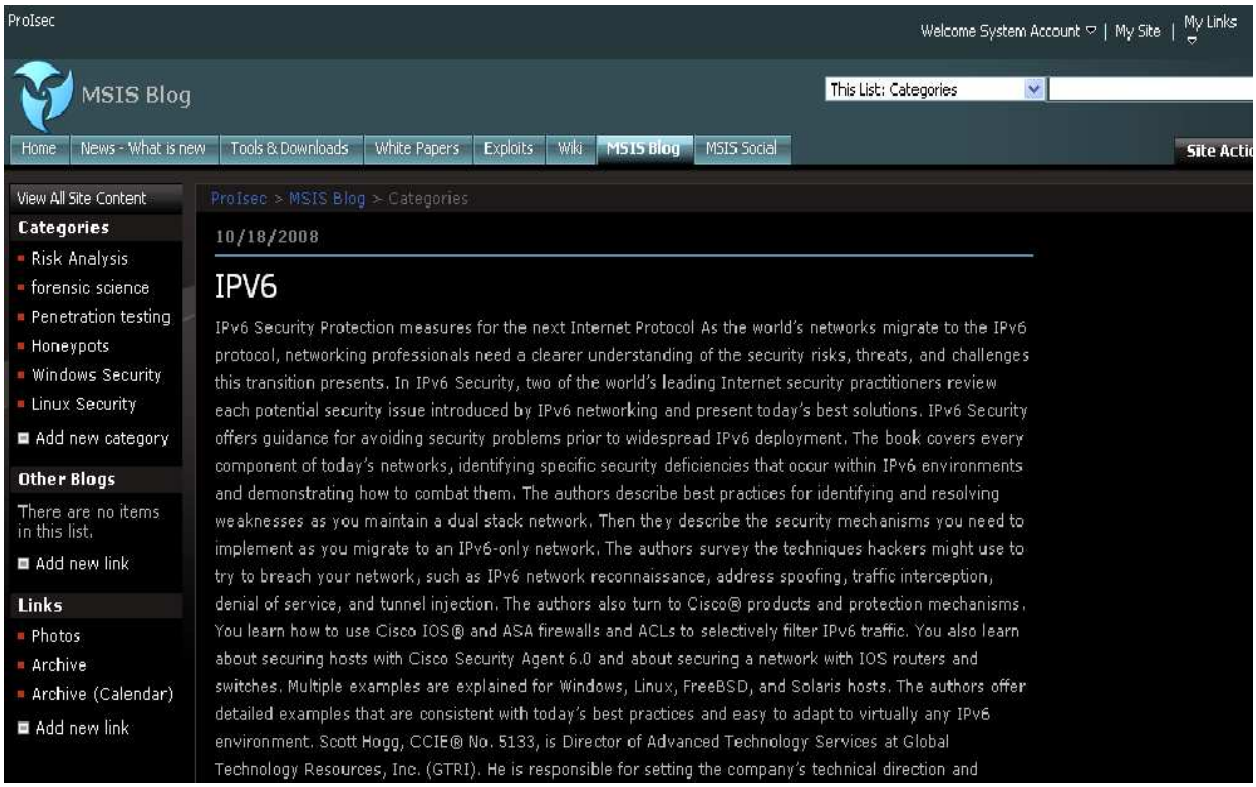
This template is popular for documenting knowledge because everyone that has user rights can contribute content and edit contributed content for accuracy. The Wikipedia has been in existence on the internet since 2001 now boasts 1.3 million entries.

The editor in a wiki page works a little differently that the rich text editor that you find in other web parts such as the content editor web part because it does not allow you to pick styles, but you can change font, font size and font color as well as insert links to other wiki pages, hyperlinks to non wiki pages and add pictures. You can create a wiki library on any site and get the same wiki functionality. How ever you will have a different left hand navigation and default page look and feel than a wiki site. If you create a wiki site, you default page has the intro to wiki text on the home page and links to how to use the wiki and recent wiki changes in the left hand navigation.

MSIS BLOG:

The MSIS blog is designed to start adding posting, advisories for others to read and comment on. The blog site template has specialized logic build into it to tie all the lists together so if you want a blog, start with a blog site and add other site functionality to it. This is different than wikis where you can add a wiki library to just about any site with very similar functionality. The blogs are more touchy, so use the blog site template if you need one and customize from there. The template creates one library and five lists namely:

- Photos: Image library for storing pictures that you want to share.
- Other Blogs: Links list for pointers to other blogs
- Categories: List of categories that you can use to organize your blog
- Comments: The list stores the comments that are made about a post
- Posts: The post lists stores the post made by the author

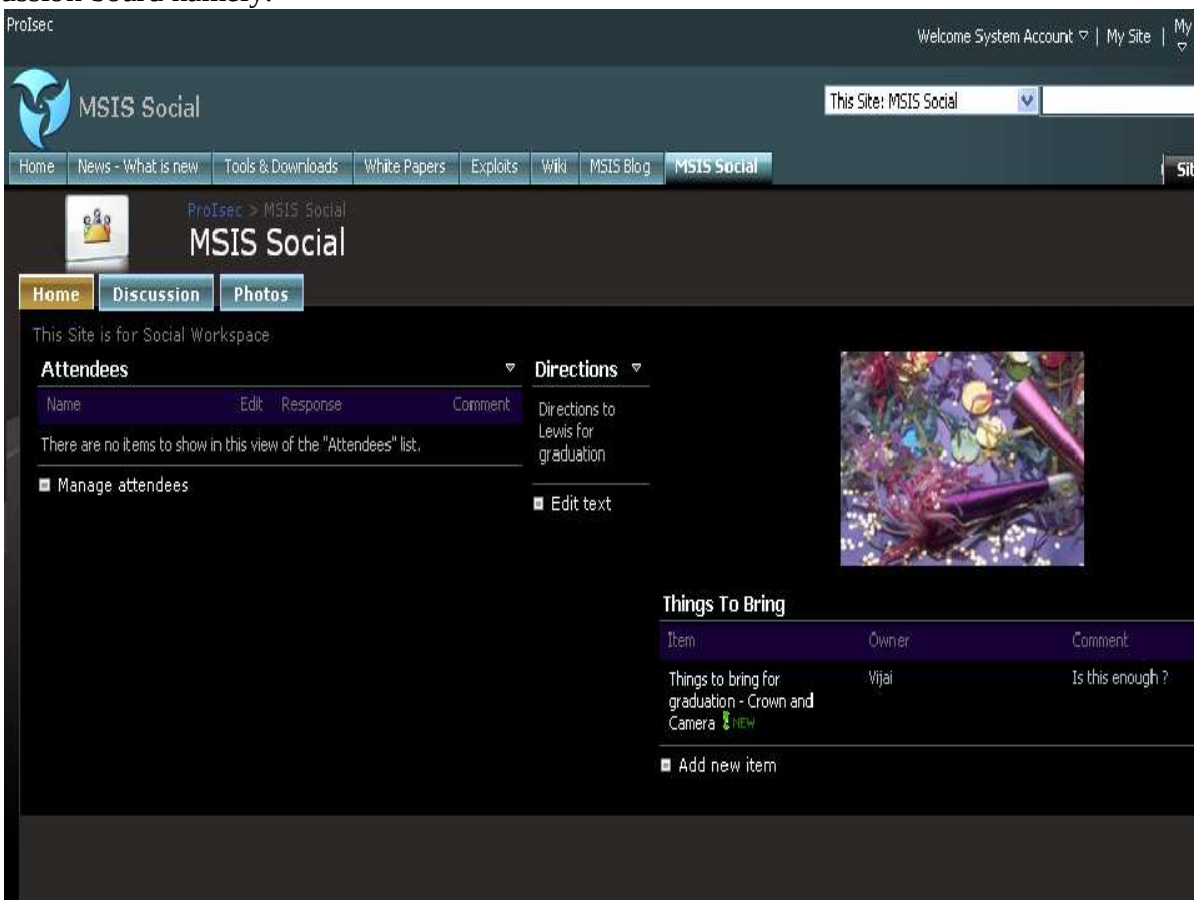


Screenshot above shows the categories in the blog in the left navigation bar.

MSIS SOCIAL:

The MSIS social is focused on social meeting on collaborating on the right information for social events. The social site template populates three pages with the web parts for these lists and libraries and provides navigation between pages via the tabs at the top of the page. The

home page is designed for the essential event information and the discussion and photo tabs display their associated information. The site template creates one library, three lists and a discussion board namely:



- Picture Library: This image library stores photo of the event
- Attendees: This list stores the attendees, their response (accepted, tentative or declined) their attendance status and comments.
- Directions: The direction list is multi line text field used to store directions to an event.
- Things To Bring: This list stores the items that were assigned or volunteered and their owners

EXPLOITS:

The exploits site is customized with just one custom list links which has useful URL provides a summary of new vulnerabilities that have been recorded by the National Institute of Standards and Technology (NIST) National Vulnerability Database (NVD) in the past week. The NVD is sponsored by the Department of Homeland Security (DHS) National Cyber Security Division (NCSD) / United States Computer Emergency Readiness Team (US-CERT). For modified or updated entries, please visit the NVD, which contains historical vulnerability information.

FUTURE ENHANCEMENT:

The PROISEC portal is beta version now with a possibility of future enhancement. I have been thinking of customizing the portal more seeing the response I get from this one. I would like to include a chat application in this portal which indicates the online members making communication instant. Also I would like the links to open up in a new window once you when you click on links in the portal I would like to thank Dr. Klump for this idea. The last one is streaming / playing video in the portal this would be very helpful as we should share some seminar and security events information.

WORK CITED:

1. (2007 June) Leon, Tynes, Cathey. First Edition Microsoft SharePoint Server 2007 Bible book

2. (2002 November) Eduardo Gelbstein, Ahmad Kamal. Second edition A survival guide to the uncharted territories of cyber-threats and cyber-security

3. (2008, November) Moss Overview retrieved November 14th 2008 from http://www.beat-jo.com/BusinessSolutions/IntranetandContentManagementSolutions/Pages/IntranetandContentManagementSolutionsOverview.aspx

4. (2008, July) Configuration of content database retrieved August 5th 2008 from http://74.125.95.132/search?q=cache:bM8Z2BiJrM8J:kiefter.members.winisp.net/blog/recreateconfig.doc+what+is+content+database+in+sharepoint&hl=en&ct=clnk&cd=8&gl=us

5. (2008, August) Deploy a small farm retrieved August 10th 2008 from Microsoft TechNet http://technet.microsoft.com/en-us/library/cc262243.aspx

6. (2008, August) Design extranet farm topology retrieved August 10th 2008 Microsoft TechNet http://technet.microsoft.com/en-us/library/cc263513.aspx

7. (2004, June 9th) SharePoint Architecture retrieved October 9th 2008 http://74.125.95.132/search?q=cache:MAPJebsTUp8J:office.microsoft.com/download/afile.aspx%3FAssetID%3DAM102437451033+sharepoint+server+architecture&hl=en&ct=clnk&cd=3&gl=us

8. (2007, June) Site Architecture retrieved November 14th 2008 http://www.sharepointblogs.com/llowevad/archive/2007/06/25/site-collection-logical-architecture.aspx

9. (2008 July 23) Moss Authentication retrieved November 15th 2008 http://sharepointmagazine.net/technical/administration/microsoft-office-sharepoint-server-2007-security-model

10. (2008 November) Software for Proisec portal retrieved November 10th 2008 http://insecure.org/

11. (2008 October) Papers for Proisec portal white papers site retrieved November 7th 2008 http://csrc.nist.gov/itsec/download_WinXP.html ,

12. (2008 October) Papers for Proisec portal white papers site retrieved November 7th 2008 http://74.125.95.132/search?q=cache:zlaSfCMpwKgJ:www.ba-insight.net/collateral/Longitude%2520white%2520paper.pdf+Longitude+v3.0+for+MOSS+Technical+White+Paper&hl=en&ct=clnk&cd=1&gl=us

13. (2008 October) Papers for Proisec portal white papers site retrieved November 7th 2008 http://www.isaca.org/ContentManagement/ContentDisplay.cfm?ContentID=43024

14. (2008 October) Papers for Proisec portal white papers site retrieved November 7th 2008 http://74.125.95.132/search?q=cache:aQjwCS8RsTMJ:www.cisco.com/warp/public/126/secpol.pdf+Network+Security+Policy:+Best+Practices+White+Paper&hl=en&ct=clnk&cd=2&gl=us

15. (2008 October) web sites build on SharePoint 2007 retrieved November 1st 2008 http://www.crsw.com/mark/sharepoint/Wiki%20Pages/Web%20Sites%20Built%20on%20SharePoint%202007.aspx

16. (2008 October) Papers for Proisec portal white papers site retrieved November 7th 2008 http://www.cio.com/white-papers

17. (2008 October) Blogs for Proisec portal reference retrieved October 30th 2008 http://www.bloginfosec.com/

18. (2008 November) Proisec portal layout was reference retrieved November 14th 2008 http://www.infosyssec.com/

19. (2008 November) Proisec exploit site reference retrieved November 14th 2008 http://www.astalavista.com/index.php?section=exploits