



Engineering | Architecture | Planning | Allied Services

Integrate ProjectWise and SharePoint

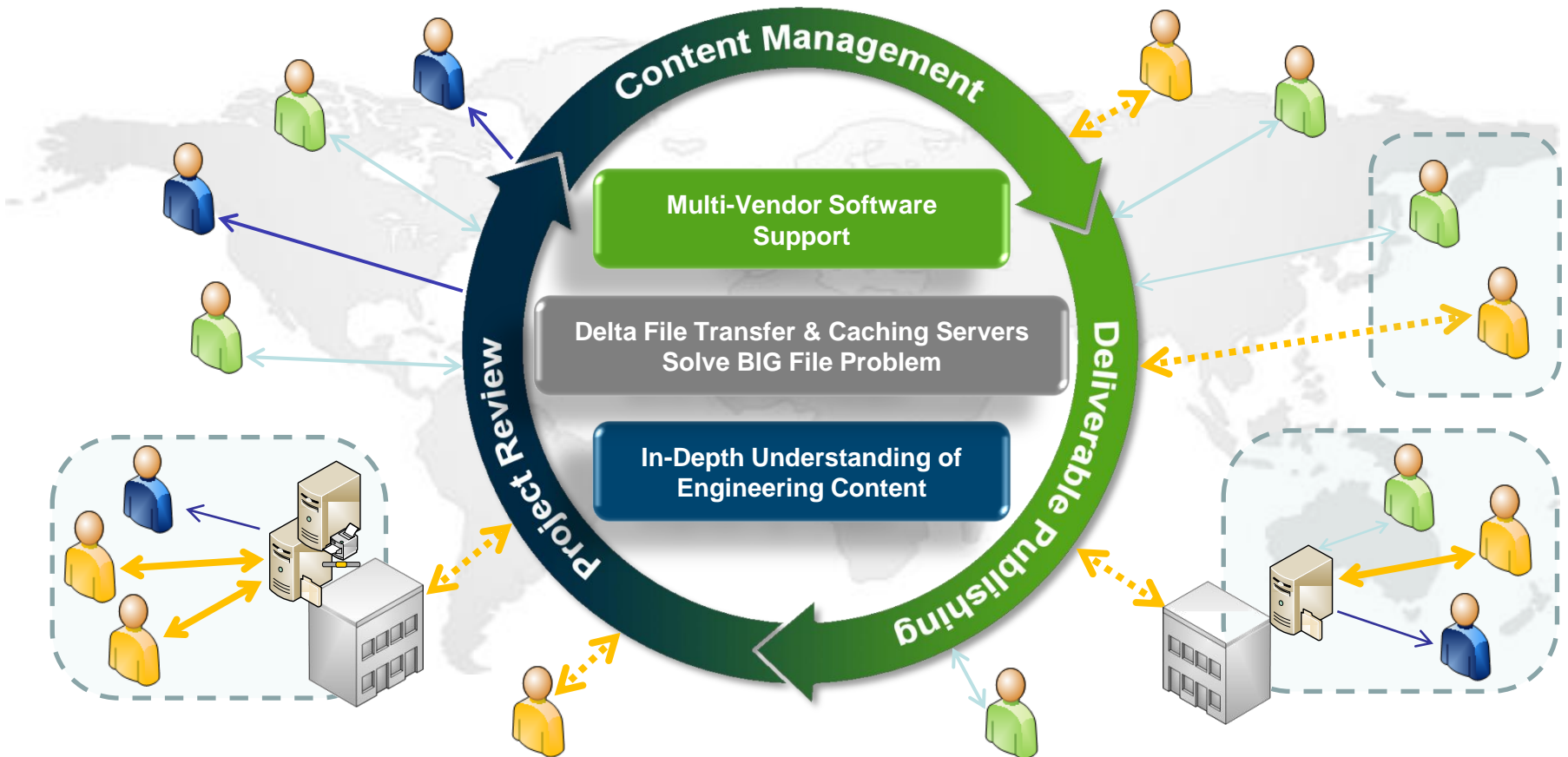
How to manage a project using both

Sean Keene, CAD and SharePoint Administrator
Hanson Professional Services Inc.

Agenda

- ProjectWise V8i and SharePoint 2010 platforms overview
- Overview of integrating ProjectWise and SharePoint based on a real life project
 - Project overview
 - User requirements
 - Implementation options identified available
 - Solution implemented
 - Lessons learned and tips
- Summary
- Q&A

ProjectWise is a Project Team Collaboration Platform for the Design and Construction of Capital Projects



Bentley
ProjectWise V8i
Engineering Project Collaboration Platform



Microsoft®
SharePoint® 2010
Business Collaboration Platform

Microsoft SharePoint 2010



The **Business Collaboration Platform** for the Enterprise and the Web

- Connect and Empower People
- Cut Costs with a Unified Infrastructure
- Rapidly Respond to Business Needs



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ProjectWise V8i
Engineering Project Collaboration Platform



Microsoft®
SharePoint® 2010
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ProjectWise and SharePoint Together ...

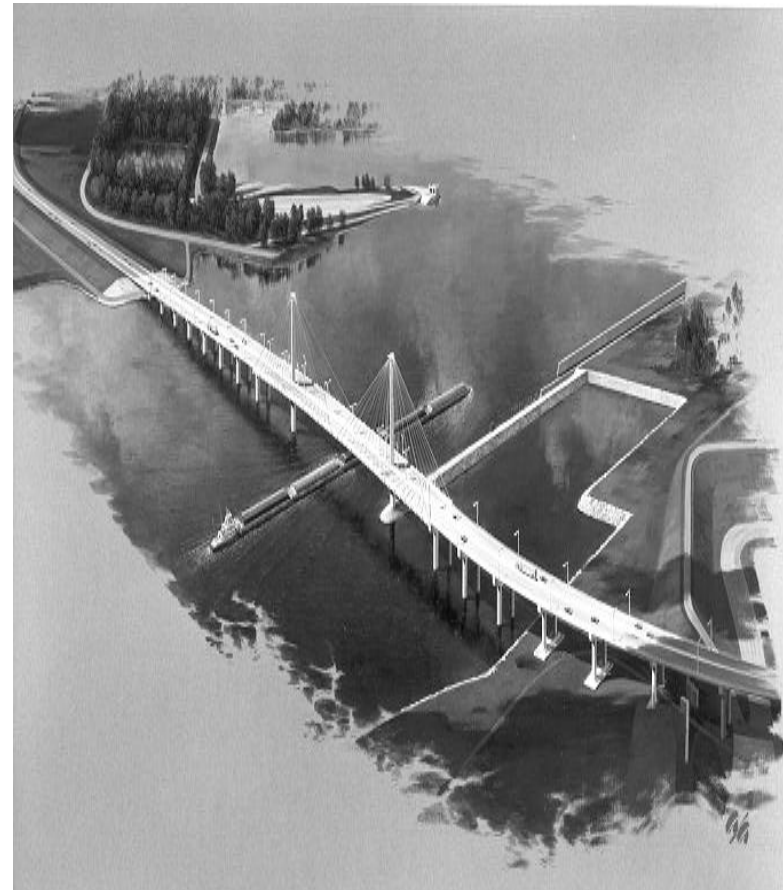
- ProjectWise - Managed environment for AEC professionals to productively **Create, Manage, Distribute** and **Share** their work.
- SharePoint – A rich **Collaboration** and **Integration** framework.
- ProjectWise + SharePoint =
 - Facilitate an integrated approach to collaboration on large and small infrastructure projects

ProjectWise and SharePoint integration project

- Project Overview
 - What was the scope of the project
- Points that needed to be addressed
 - What project information should be tracked/managed and how
- What were the options
 - What type of management tools should be used
- Solution
 - How the decisions to use SharePoint and ProjectWise and integrate them to successfully manage the project

Project Overview

- Scope
 - Reconstruction of a 7+/- mile corridor
 - replacement of existing bridge
 - reconstruction of multiple interchanges
 - enhancement of the connecting arterial roadway
 - improvement of transit and bike/pedestrian connections
 - Project Team
 - Prime consultant will coordinate with 10+ sub-consultants and multiple state and local agencies
 - Consultants will prepare final construction contract documents
 - Cost estimate:
 - \$800 million Design and Construction



Project Overview

- Scope Cont'd
 - Hanson Tasks
 - Implement, host, administer and maintain a project document management system
 - System will help coordinate tasks for the project
 - System should allow consultants and agencies to manage and share project drawings, documentation and correspondence in a secure environment
 - Time frame
 - 3 + years for document management
 - Option to manage construction documents after design is complete

Points that need to be addressed

- Where should the content/data be stored?
 - One central location for content/data storage which can be easily managed and tracked by project team
- Multiple types of content/data to be managed
 - Administrative content/data
 - Scopes of work, Meeting Minutes, Phone Memos, E-mail, administrative files, project schedules
 - CAD content/data
 - MicroStation, AutoCAD, GEOPAK
 - Coordination of CAD content/data between consultants is key
 - Submittals should be easy to retrieve
 - Multiple contract submittals could overlap

Points that need to be addressed

- How to coordinate activities?
 - Central location for all
 - Project meetings, schedules
 - Tasks assigned
 - RFI's
- How to notify Project Team collectively?
 - Automatic notification
 - Project activities are scheduled, notify individual team members about project activities related to them
- Security?
 - Ability to scale up or down
 - Allow specific access or overall access

Points that need to be addressed

- Interface – What will it look like?
 - Role in project will decide
 - Project Managers, Agency Reviewers, etc. deal with meetings, RFI's, Task assignments, reviews. Simple interface
 - Project engineers, CAD technicians deal with engineering details, calculations, CAD drawings, coordination of drawings between other consultants, submittals. Complex interface
 - Explorer look
 - Contract specific folder setup
 - Maintain uniformity for all contracts
 - Folder setup should follow project schedule

What are the options?

	SharePoint	ProjectWise	ProjectWise + SharePoint
Ability to aggregate data from multiple sources	X	X	X
Managing CAD data, including CAD application integration and reference file management		X	X
Improve project data access performance for project teams; setting up local caching servers; Delta File Transfer		X	X
Managing Office documents; ability to view Calendar and Tasks info in Outlook offline	X	X	X
Help coordinating activities: Project meetings, Calendar, RFIs, Tasks	X		X
Automatic project team notifications (for example on overdue task, issues, RFI)	X	+/-	X
Granular security, Integration with Active Directory	X	X	X
Windows and Web clients available	+/-	X	X

Solution

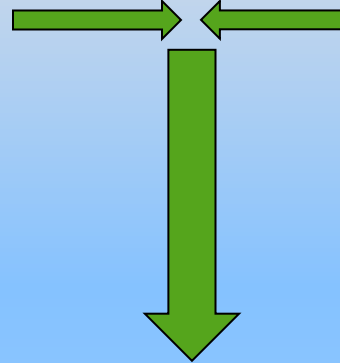


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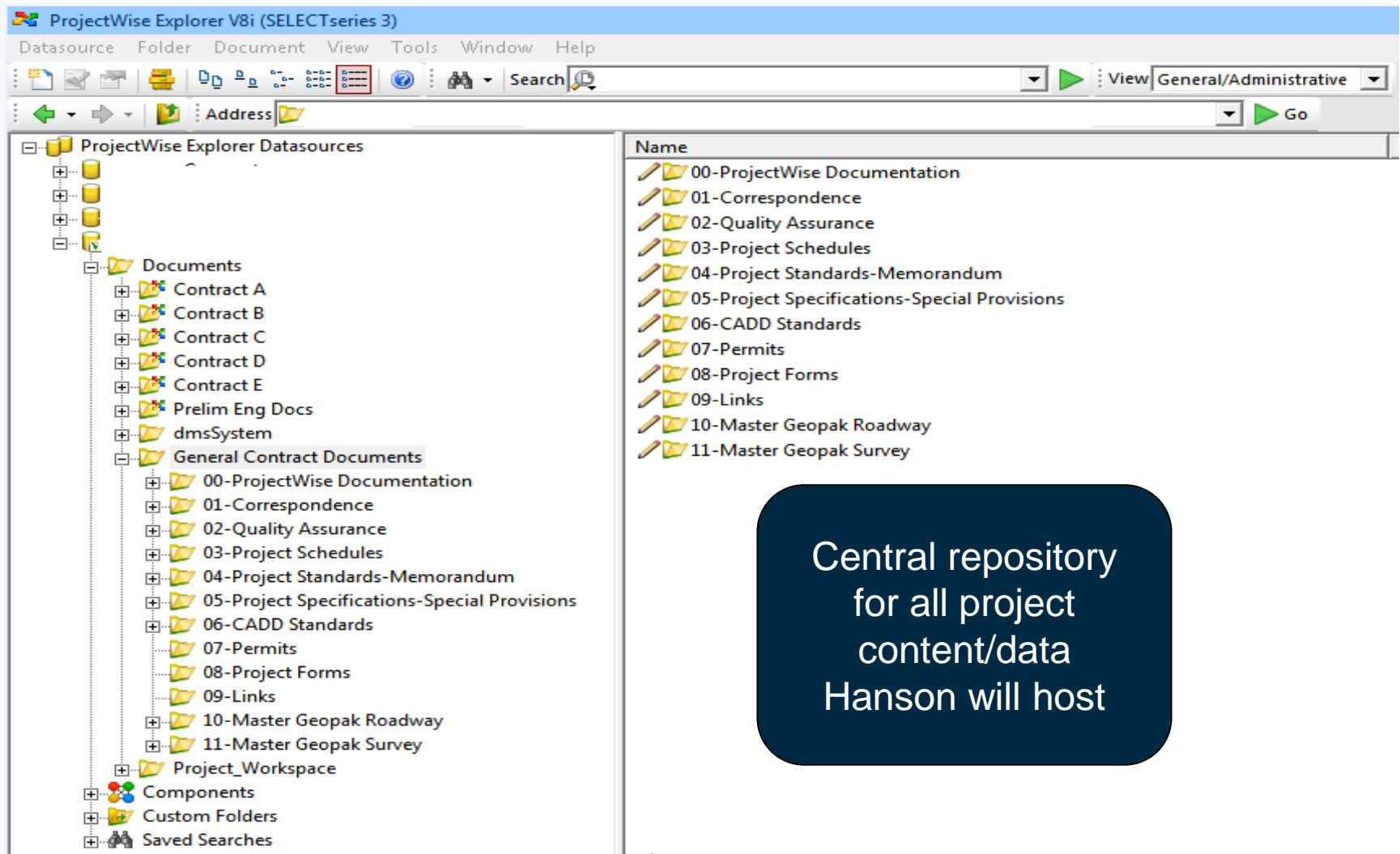
Use to manage project
content/data, standards



Use to coordinate project
activities and manage
project proactively

Integrate ProjectWise and SharePoint to access all
critical project information. Hanson will administer/
maintain ProjectWise and SharePoint for project

ProjectWise Integration Server and ProjectWise Explorer



The screenshot displays the ProjectWise Explorer V8i (SELECTseries 3) interface. The left pane shows a tree view of ProjectWise Explorer Datasources, including folders for Documents, Contract A through E, Prelim Eng Docs, dmsSystem, General Contract Documents, Project_Workspace, Components, Custom Folders, and Saved Searches. The right pane shows a list of folders under the 'Name' column, including 00-ProjectWise Documentation, 01-Correspondence, 02-Quality Assurance, 03-Project Schedules, 04-Project Standards-Memorandum, 05-Project Specifications-Special Provisions, 06-CADD Standards, 07-Permits, 08-Project Forms, 09-Links, 10-Master Geopak Roadway, and 11-Master Geopak Survey.

Central repository
for all project
content/data
Hanson will host

ProjectWise Integration Server

The screenshot displays the ProjectWise Administrator V8i (SELECTseries 3) interface. The left pane shows a tree view of the configuration structure, with the 'Managed' workspace profile selected. The right pane shows a table of configurations.

Name	Description
ARRC_RAIL_DWG	Alaska Railroad Commission - DWG workspace
BNSF-Rail	BNSF Rail Configuration
BNSF-Struct	BNSF Struct Configuration
BNSF-TCS	BNSF Track Chart Schematics
IADOT-CADD	Iowa Department of Transportation - CADD Config - 2
IADOT-RoadDesign	Iowa Department of Transportation - Road Design C...
IADOT-Startup	Iowa Department of Transportation - Startup config ...
IDOTCAD	Illinois Department of Transportation Configuration
IDOTCAD-Capability	Removes certain MicroStation capabilities due to IDOT
MoDOT Geopak Config	Missouri Department of Transportation - Geopak Con...
MoDOT-Design	Missouri Department of Transportation Configuratio...
UP-Rail	Union Pacific Rail Configuration
UP-Struct	Union Pacific Structure Configuration

Use of Managed Workspace

ProjectWise Integration Server

The screenshot shows the ProjectWise Administrator V8i (SELECTseries 3) interface. The left pane displays a tree view with the following structure:

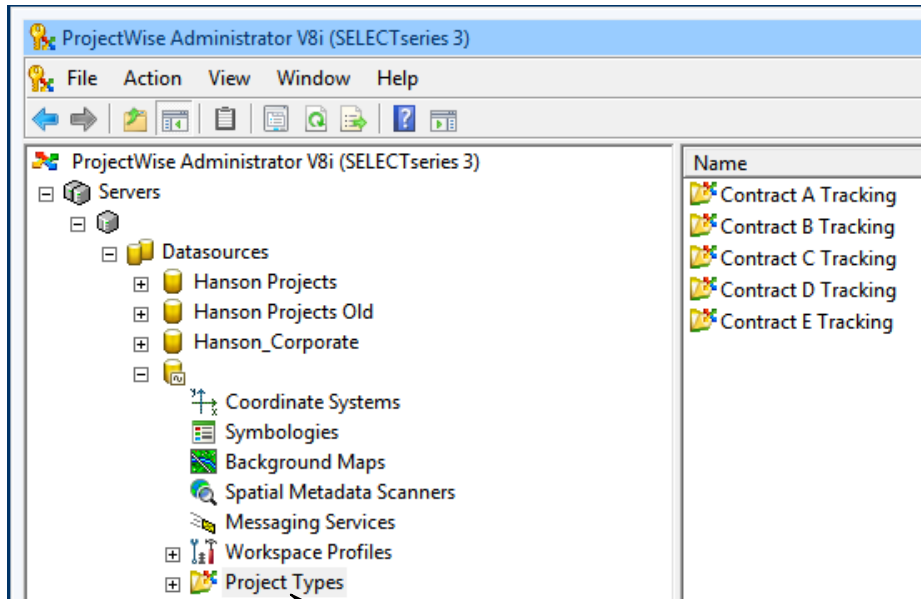
- Servers
 - Datasources
 - Hanson Projects
 - Coordinate Systems
 - Symbologies
 - Background Maps
 - Spatial Metadata Scanners
 - Messaging Services
 - Workspace Profiles
 - Project Types
 - Applications
 - Departments
 - States
 - Workflows
 - Storage areas
 - Views
 - Environments**
 - Administrative Files 09H0037

The right pane displays a table of environments:

Name	Description
Administrative_Files_09H0037	Project 09H0037 Admin File Naming Convention
ARRC	Alaskan Rail Road Commission
CSX	CSX CADD Standards in DWGMode
Hanson_SP5	Hanson Standard Practice 5 - Based upon Rev. 3
HPSI_SP5	Hanson SP5 Naming Convention - Based upon Rev. 2
_Administrative_Files	- Admin File Naming Convention
IDOT	Illinois Department of Transportation - Old Do Not Use
IDOT_CADD_Roadway	IDOT CADD Roadway Naming Convention
IDOT_CADD_Structure	IDOT CADD Structure Naming Convention
ISTHA_Admin	ISTHA Admin File Naming Convention - Old Do Not ...
ISTHA_Administrative_Files	ISTHA Admin File Naming Convention
ISTHA_CAD_Standar	Convention for Model Files
ISTHA_CAD_Standar	Convention for Sheet Files
MoDOT_CADD_Bric	Convention
National_CAD_Stan	el Files
National_CAD_Stan	Files
	H0026

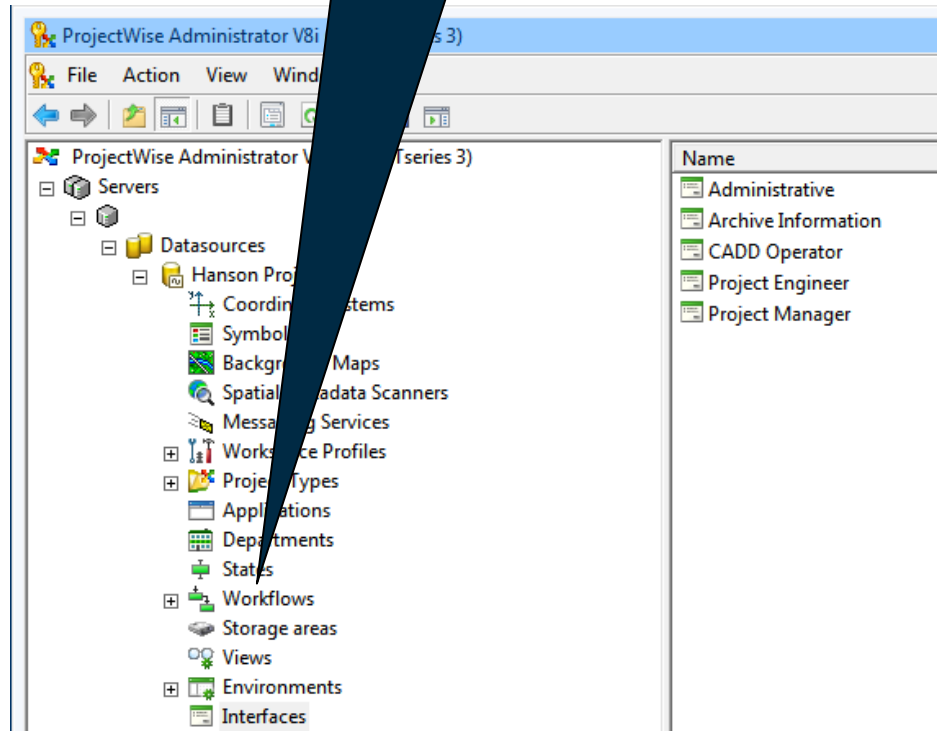
A dark blue callout box with white text points to the 'Environments' folder in the tree view, containing the text: "Environments for naming convention and attributes".

ProjectWise Integration Server



Project Types for additional attributes

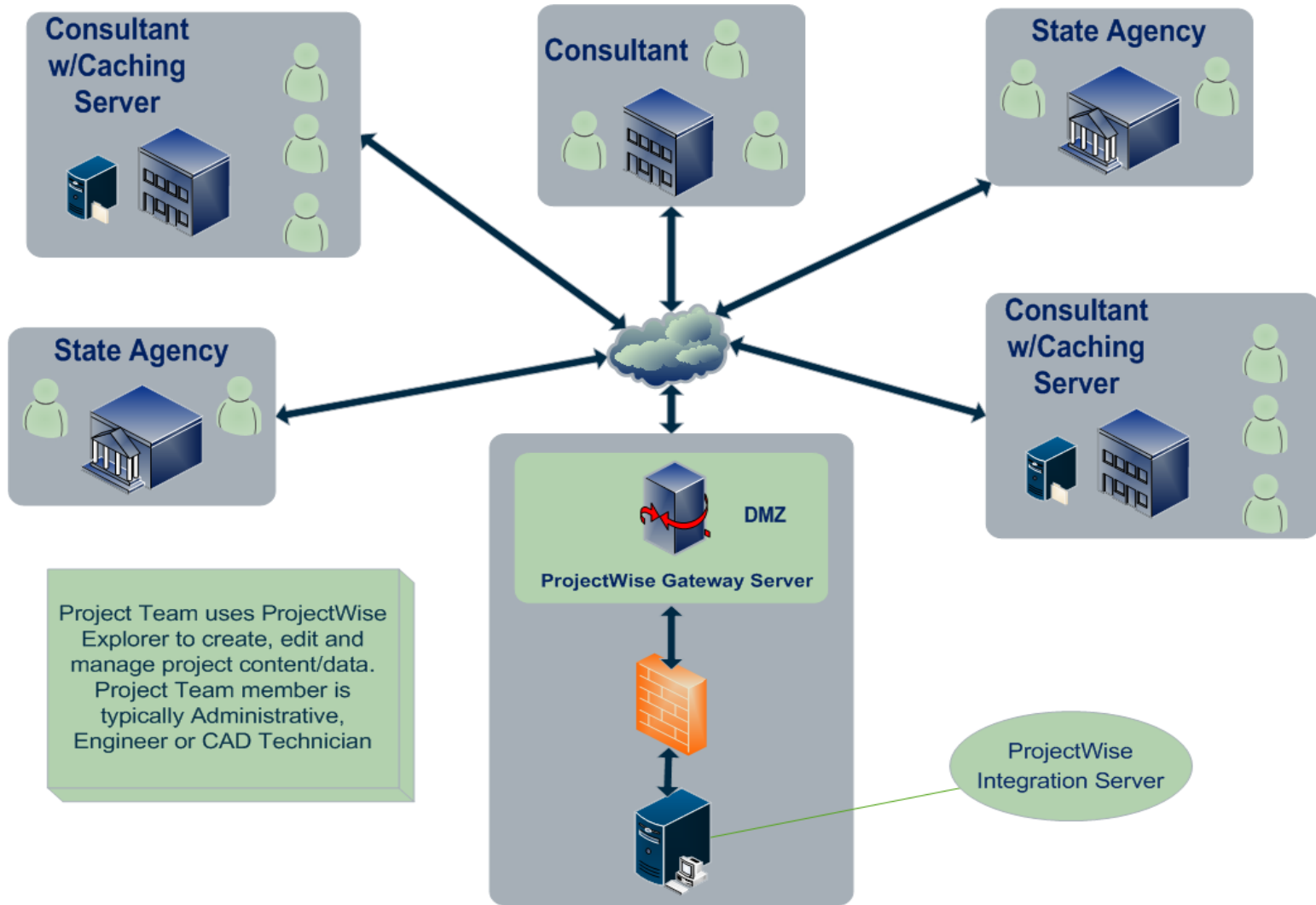
Workflows and States for specific viewing



ProjectWise Integration Server and ProjectWise Explorer

- ProjectWise Explorer
 - Main interface to manage project content/data
- ProjectWise Gateway and Caching Server
 - At Hanson to direct outside requests to project content/data
 - Each consultant or agency has the option to purchase
- ProjectWise Passports
 - Evaluate how many needed and obtained licenses from Bentley

ProjectWise Integration Server and ProjectWise Explorer



SharePoint

Web interface familiar to everyone

Email link for support

One location for communications

People and Groups to look up project members

The screenshot shows a SharePoint Project Site Home page in Internet Explorer. The browser address bar shows the URL: <http://sp2010test-svr1.hanson.dom/sites/pages/home.aspx>. The page header includes the Hanson logo and navigation tabs for various contracts: Home, Contract 1 - Main Roadway, Contract 2 - Arterial Roadways, Contract 3 - Bridges, Contract 4 - Project Administration, and Contract 5 - Bikepaths/Pedestrian. A search bar is located on the right side of the header.

The main content area is divided into several sections:

- Libraries:** Shared Documents, General Contract Documents.
- Lists:** Project CAD Standards, Contract 2-Bridge Submittal due 6/10/2011.
- Project Site Support:** For project site support please email: support@hanson-inc.com.
- Project Announcements:** A table listing announcements with columns for Title and Modified date.
- Calendar:** A calendar for April 2011 showing meetings such as "Utility Coordination Meeti" and "Project Managers Meetin".
- Sites:** A list of project sites including Contract 1 - Main Roadway, Contract 2 - Arterial Roadways, Contract 3 - Bridges, Contract 4 - Project Administration, and Contract 5 - Bikepaths/Pedestrian.
- People and Groups:** A section for looking up project members.

On the right side of the page, there is a large image of a bridge over a river at sunset. Below the image, there is a "Getting Started" section with links for "Share this site", "Change site theme", "Set a site icon", and "Customize the Quick Launch".

Title	Modified
Project CAD Standards	4/5/2011 3:34 PM
Contract 2-Bridge Submittal due 6/10/2011	4/5/2011 3:33 PM

April, 2011						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	31	1	2
3	4	5	6	7	8 12:00 pm - 3:00 pm Project Managers Meetin	9
10	11	12 1:00 pm - 3:00 pm Utility Coordination Meeti	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27 8:00 am - 5:00 pm Contract 1 - Submittal D	28	29	30

SharePoint

Calendar - Calendar - Windows Internet Explorer provided by Hanson Professional Services Inc.

http://sp2010test-svr1.hanson.dom/Lists/Calendar/calendar.aspx

File Edit View Favorites Tools Help

Calendar - Calendar

Calendar Tools

Site Actions Browse Events Calendar

Day Week Month Expand All Collapse All Calendars Overlay Create View Modify View Current View: Calendar E-mail a Link RSS Feed Connect to Outlook Export to Excel Open with Access Edit List Form Web Parts List Settings Workflow Settings List Permissions

Scope Expand Manage Views Share & Track Connect & Export Customize List Settings

2011 April, 2011

Jan	Feb	Mar	Apr	May	Jun	Sun	Mon	Tue	Wed	Thu	Fri	Sat
			27	28	29	30	31	1	2			
			3	4	5	6	7	8	9		12:00 pm - 3:00 pm Project Managers Meeting	
			10	11	12	13	14	15	16			
			17	18	19	20	21	22	23			
			24	25	26	27	28	29	30			
						8:00 am - 5:00 pm Contract 1 - Submittal Due						

Today is Sunday, April 10, 2011

Calendars in View: Calendar

Libraries: Shared Documents, General Contract Documents

Lists: Calendar, Tasks, RFI, Project Issues

Discussions: Team Discussion

Sites: Contract 1 - Main Roadway, Contract 2 - Arterial Roadways, Contract 3 - Bridges, Contract 4 - Project Administration, Contract 5 - Bikepaths/Pedestrian

Local intranet | Protected Mode: Off

Project Team can connect to his/her Outlook

Project Calendar-All project activities scheduled here

SharePoint

Project Site - Home - Windows Internet Explorer provided by Hanson Professional Services Inc.

http://sp2010test-svr1.hanson.dom/sitepages/home.aspx

File Edit View Favorites Tools Help

Project Site - Home

Site Actions Browse Page

SEAN KEENE

HANSON Project Site » Home
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Home Contract 1 - Main Roadway Contract 2 - Arterial Roadways Contract 3 - Bridges Contract 4 - Project Administration Contract 5 - Bikepaths/Pedestrian

Search this site...

Libraries
Shared Documents
General Contract Documents

Lists
Calendar
Tasks
RFI
Project Issues

Discussions
Team Discussion

Sites
Contract 1 - Main Roadway
Contract 2 - Arterial Roadways
Contract 3 - Bridges
Contract 4 - Project Administration
Contract 5 - Bikepaths/Pedestrian

People and Groups
Recycle Bin
All Site Content

Project Site Support
For project site support please email: support@hanson-inc.com

Project Announcements

Project CAD Standards
Contract 2-Bridge Submittal due 6/10/2011

[Add new announcement](#)

Calendar


April, 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	31	1	2
3	4	5	6	7	8 12:00 pm - 3:00 pm Project Managers Meetin	9
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17	18	19	20	21	22	23
24	25	26	27 8:00 am - 5:00 pm Contract 1 - Submittal D	28	29	30

Getting Started

- Share this site
- Change site theme
- Set a site icon
- Customize the Quick Launch

SharePoint Lists items help track project tasks/issues that keep project from moving forward



SharePoint

I-74 Final Design Project Team Site > RFI > New Item

RFI: New Item

! The content of this item will be sent as an e-mail message to the person or group assigned to the item.

OK Cancel

Attach File Spelling... * indicates a required field

Title *	Request for Pavement Widths in Roundabout
Assigned To	Peter Griffin
Issue Status	Active
Priority	(2) Normal
Description	<p>The roundabout at Georgetown and Indianapolis St. is not typical. Do the pavement widths take into consideration the bike lanes?</p>
Category	(2) Category2
Related Issues	<p>Add ></p> <p>< Remove</p>
Comments	<p>The pavement design from the Phase I package is not clear.</p>
Due Date	6/2/2011
Carbon Copy	Stewie Griffin; Brian Griffin; Glen Quagmire Enter users separated with semicolons.

OK Cancel

Created custom workflow to notify multiple team members

ProjectWise integration with SharePoint

Project Site - Home - Windows Internet Explorer provided by Hanson Professional Services Inc.
http://sp2010test-svr1.hanson.dom/sites/pages/home.aspx

File Edit View Favorites Tools Help

Project Site - Home

Site Actions Browse Page Sean Keene

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Project Site > Home

I Like It Tags & Notes

Home Contract 1 - Main Roadway Contract 2 - Arterial Roadways Contract 3 - Bridges Contract 4 - Project Administration Contract 5 - Bikepaths/Pedestrian Search this site...

Libraries
Shared Documents
General Contract Documents

Lists
Calendar
Tasks
RFI
Project Issues

Discussions
Team Discussion

Sites
Contract 1 - Main Roadway
Contract 2 - Arterial Roadways
Contract 3 - Bridges
Contract 4 - Project Administration
Contract 5 - Bikepaths/Pedestrian

People and Groups
Recycle Bin
All Site Content

Project Site Support
For project site support please email: support@hanson-inc.com
Project Announcements
Title
Project CAD Standards
Contract 2-Bridge Submittal due 6/10/2011
Add new announcement

Calendar
April, 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30			
3	4	5	6	7	8 12:00 pm - 3:00 pm Project Managers Meetin	9
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17	18	19	20	21	22	23
24	25	26	27 8:00 am - 5:00 pm Contract 1 - Submittal D	28	29	30

Getting Started
Share this site
Change site theme
Set a site icon
Customize the Quick Launch

Separate site pages that link to ProjectWise data through Web parts

ProjectWise integration with SharePoint

Contract 1 - Home - Windows Internet Explorer provided by Hanson Professional Services Inc.

http://sp2010test-svr1.hanson.dom/Contract1/SitePages/Home.aspx

File Edit View Favorites Tools Help

Contract 1 - Home

Site Actions Browse Page

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Contract 1 - Home

Home Contract 1 - Main Roadway Contract 2 - Arterial Roadways Contract 3 - Bridges Contract 4 - Project Administration Contract 5 - Bikepaths/Pedestrian

Libraries
Site Pages
Shared Documents

Lists
Calendar
Tasks

Discussions
Team Discussion

Recycle Bin
All Site Content

ProjectWise Search

Advanced Search Go

ProjectWise Navigation Tree

PWTEST-SVR1.hanson.dom:ProjectWise Revit Test HANSON\Keene00725

Contract.1

Main.Roadway

- Admin
 - 00-Project Records
 - 01-Project Management
 - 02-Task Management
 - 03-Proposal
 - 04-Project Startup
 - 05-Agreements
 - 06-Correspondence
 - 07-Meeting Minutes
 - 08-Quality Assurance
 - 09-Health and Safety
 - 10-Reference Data
 - 11-Plans
 - 12-Specifications

ProjectWise Cont

Open as Read-Only
View

Folder Document View

Design Compare...
Copy Out
Purge Local Copy
Download...
Copy Link(s) to Clipboard
Properties

Revit Test\Documents\SharePoint-ProjectWise\Contract.1\Main.Roadway\Admin\00-Project Records\

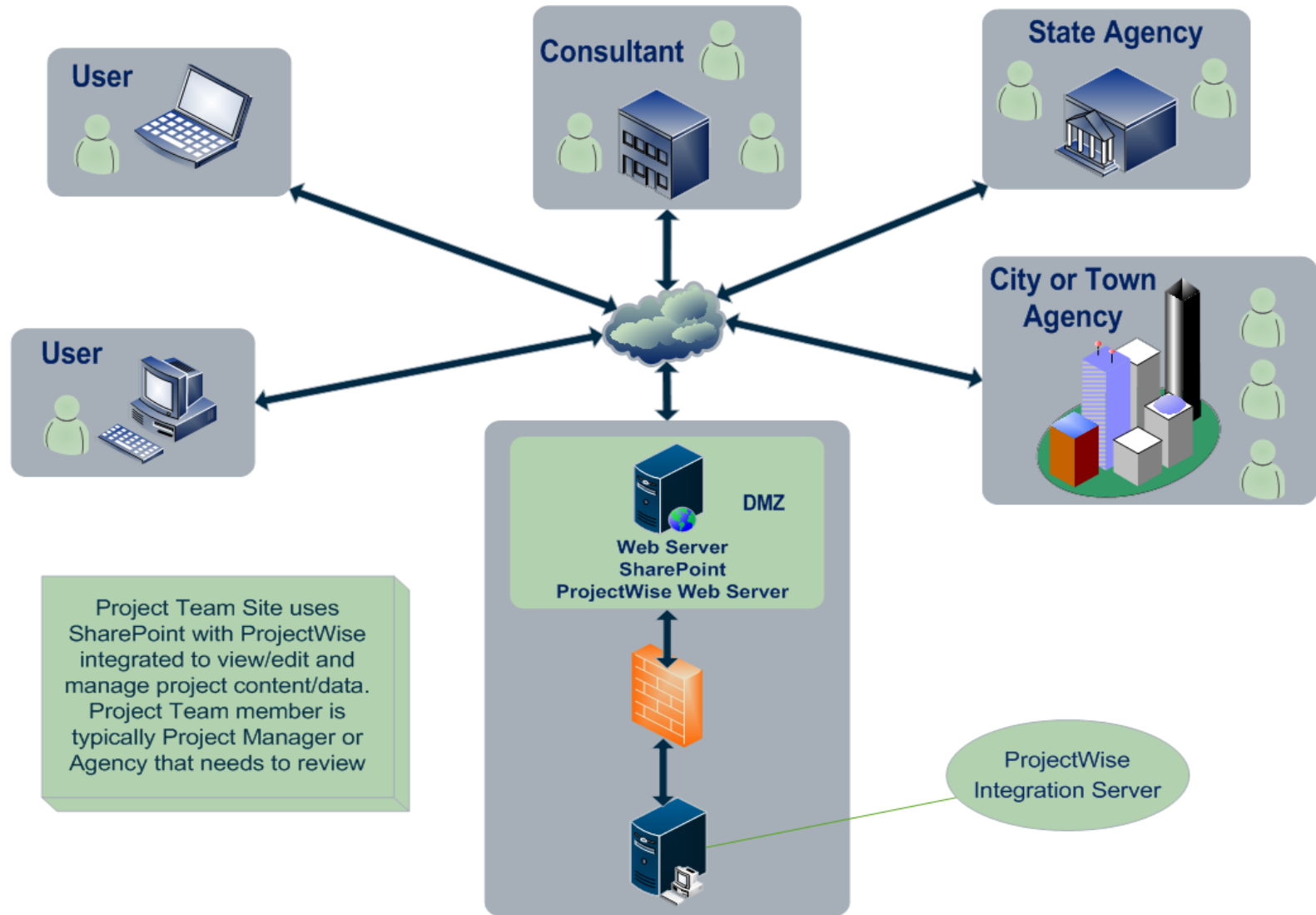
File Name
Web Link
ProjectWise Link
For Specific Action

ProjectWise Web Parts display ProjectWise content

Web Link directs any team member to project site for documents

Trusted sites | Protected Mode: Off

ProjectWise integration with SharePoint



Solution

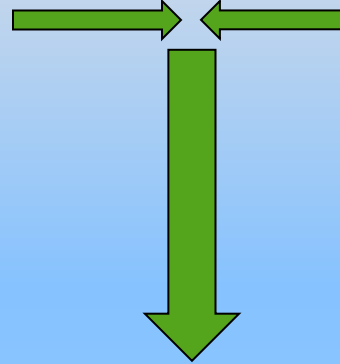


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Use to manage project
content/data, standards



Use to coordinate project
activities and manage
project proactively

Integrate ProjectWise and SharePoint to access all
critical project information.

Lessons learned, Tips

- Document Storage - SharePoint or ProjectWise or both?
 - SharePoint difficult to manage CAD documents
 - ProjectWise can manage multiple types
 - One location allows for simple management - ProjectWise
- Authentication – How to manage users for both systems?
 - Active Directory - manage all users and sync with SharePoint and PW. One change, all change.
- Security – inside other Organizations
 - Active X is required – some organizations block this from installing
 - Need to work with other organizations IT staff

Lessons learned, Tips

- Where should the project site be hosted?
 - On premise – DOT or state agency
 - External hosted service - Consultant
- Backup and Restore
 - Plan ahead for disaster, good backup plan
 - Virtual Servers
 - All documents stored in one location (PW) easy backup and restore
- Training
 - Mixed bag of users
 - Provide role specific user guides

Summary

- ProjectWise V8i and SharePoint 2010 facilitate an integrated approach to collaboration on large and small infrastructure projects
- ProjectWise V8i and SharePoint 2010:
 - Greater insight into project status and progress
 - Provide broad access to all project information in single place
 - Speed up information discovery
 - Decisions made easier and faster



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Integrate ProjectWise and SharePoint

How to manage a project using both

Questions?