

Honeywell Estimates Gain of \$2.7 Million Using Collaboration Workspaces to Improve Information Worker Productivity; Centralized Management Helps Reduce IT Costs

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By upgrading to a Web-based team collaboration workspace environment built on Microsoft® Windows® Server 2003 and Windows SharePoint™ Services, Honeywell Automation and Control Solutions (ACS) expects to improve team collaboration, document sharing, and internal data discovery and reuse throughout the company. Using out-of-the box functionality ACS will be able set up more than 100 team workspaces per week by empowering local users with a standards-based system that is the foundation for enterprisewide collaboration. ACS-wide team site standards will help to consolidate the company's intranet sites by 75 percent, reduce the time necessary for setting up new site and lower site management and administration costs. Based on preliminary results, collaboration productivity of ACS information workers has improved approximately 25 percent.

Situation

As the 2nd largest business for Honeywell with approximately \$7.5 billion in revenue, Honeywell Automation and Control Solutions (ACS) know the importance of collaboration in achieving business goals.

With more than 24,000 information workers in its 40,000 person workforce, the experience of Honeywell ACS demonstrates that an enterprisewide knowledge management infrastructure is necessary to ensure that its information workers, who span multiple geographies, business units, and business processes, are efficient and productive. Global collaboration was necessary to meet the strict requirements of Six Sigma and other business-critical standards.

ACS already had a decentralized team workspace environment built in part using Microsoft SharePoint Team™ Services version 1.0, but they were developed at the team level without enterprisewide standards or centralized management. After carefully examining their existing system and fully understanding the demands of their users, ACS developed an enterprise infrastructure to streamline collaboration and increase information worker productivity.

ACS needed technologies that would provide the foundation for a scalable and extensible solution that was secure, optimized network bandwidth, had scalable storage architecture, and was cost-effective to implement and centrally manage. Two issues were paramount:

Solution Overview

Customer Profile

Automation and Control Solutions (ACS) provides products and services to control heating, cooling, ventilation, humidification, industrial process automation, video surveillance and access control equipment; security/fire alarm and industrial safety systems, home automation systems; advanced software applications for home/building control and industrial optimization; sensors, switches, control systems and instruments for measuring pressure, air flow, temperature, electrical current and more.

Business Situation

An extensive system of ad hoc intranet sites enabled basic team-level collaboration, but was not designed to create a scalable or extensible enterprise portal system. Decentralized management contributed to inefficient administration and high IT costs.

Solution

Honeywell ACS used Windows SharePoint Services as the basis for developing an information worker infrastructure for advanced collaboration and extended the solution enterprisewide by using Microsoft Office SharePoint™ Portal Server for an enterprise portal architecture. The solution will provide ACS with a scalable document management and collaboration platform that will help improve information worker productivity while reducing intranet management costs.

Projected Benefits

- Information worker collaboration productivity improved by 25 percent.
- Self-service provisioning process takes less than 1 hour to set up a team workspace (95 percent less time).
- Content migration was smooth and accurate; no content was lost.
- Consolidated nearly 500 intranet sites to 125+, a 75 percent reduction.
- Centralized site management improved IT efficiency.
- Scalable single sign-on security decreased administration time.
- Enterprisewide intranet search.
- Developer efficiency improved.

Software and Services

Microsoft® Windows® Server 2003

- **Expanding end-user needs.** The corporate standard of network file shares had reached the end of its useful life. Growing demands for easier file management, better communication, quicker collaboration, cross-team information sharing, and cross-site content indexing and search necessitated migrating from the existing decentralized team workspaces model to a centralized system that honored team-level initiative yet did it within the context of an enterprisewide portal framework for knowledge management.
- **Centralized site management.** The existing ad hoc growth and decentralized system needed to be replaced with centralized management that provided a single security model and common framework built on enterprisewide standards that enabled a universal look and feel to each site and provided a foundation for a corporate intranet portal.

ACS looked to Microsoft for assistance in implementing established best practices that had already proven successful within Microsoft's own global organization.

Mike Parisi, Director of DigitalWorks at Honeywell ACS explained, "Working with Microsoft, we are in process of implementing a team workspace solution based on Microsoft Windows Server 2003 and Windows SharePoint Services, and an enterprisewide portal strategy based on Microsoft Office SharePoint Portal Server 2003. This solution will not only meet our corporate standards for extensibility, security and centralized management, but it will take us beyond them by improving team collaboration resulting in increased productivity."

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Mike Parisi
Director, DigitalWorks
Honeywell ACS

Solution

The following Microsoft technologies provide the foundation of the extensible collaboration platform that is currently in the process of implementation throughout ACS:

- **Microsoft Windows Sharepoint Services** extends ACS's existing use of Microsoft SharePoint Team Services version 1.0 by providing a Windows server-based infrastructure, enabling information workers to easily and quickly develop collaborative team workspaces that Honeywell ACS refers to as "TeamRooms". Using out-of-the box templates, SharePoint Services-based TeamRooms can be easily tailored to meet specific requirements where extensibility and scalability are also critical.
- **Microsoft OfficeSharepoint Portal Server 2003** takes advantage of Windows SharePoint Services' Web service architecture to aggregate distributed team workspaces and provide supporting architecture for an enterprisewide portal strategy.
- **Microsoft Windows Server 2003** provides a reliable and scalable platform with centralized management and security services and single sign-on capabilities using Windows domain accounts.

Darron Smith, Intranet Program Manager at Honeywell ACS explained "The deployment of team collaboration workspaces using Windows SharePoint Services will help to make our information workers more effective by enabling them to collaborate as they create and manage content at the team level. And, since SharePoint Portal Server shares the same architecture as [Windows] SharePoint Services, we can easily implement company-wide knowledge management as we implement more team-based workspaces across the enterprise. This was a critical factor in our selection of Microsoft technologies."

A Foundation for Information Worker Collaboration Services

The creation of ad hoc team sites started as a positive grassroots effort to grow beyond simple file storage in order to support better collaboration, document sharing, and team management capabilities. However, with virtual teams working in dispersed locations around the world it was essential to take collaboration beyond this level and develop an ACS-wide collaboration architecture.

With the objective of improving worker productivity, they created the Intranet Steering Council, an internal steering committee to establish ACS-wide standards for creating team workspaces and collaboration portals. ACS used Windows SharePoint Services to establish a standard model for developing project and team-related sites and will use Microsoft SharePoint Portal Server to develop an organization-wide architecture as a framework for linking, managing, and searching all project and team-related sites throughout the company.

Mike Parisi continues "Even before we started to develop the new team workspace environment use of the earlier collaboration solution was so successful that senior executives had created their own team sites. This indicated to our [ACS] Productivity group that because it would be easier to set up new team sites using the Windows SharePoint Services solution it would probably become a defacto standard as a collaboration tool for everyone from developers, to information workers, to senior level management."

Beyond File Sharing: Windows Server 2003 and Windows SharePoint Services

Better access to team and enterprise data, improved collaborative functionality, and enhanced capacity for business intelligence will help ACS's information workers as well as senior level management.

- **Improved team collaboration.** By supporting active discussions, calendar and meeting synchronization, and the display of common tasks within Windows SharePoint Services-based team sites, information workers can become more productive as they create and share documents, projects, and related information.
- **Enhanced business intelligence.** Using Microsoft Excel, Microsoft SQL™ Server Analysis Services, Microsoft Office XP, Windows SharePoint Services, and Microsoft Data Analyzer for critical business analysis, ACS information workers can have better business insight, enabling them to respond more rapidly to changes in the marketplace.
- **Better management through platform-wide document control.** In the past, documents stored in file shares were often accidentally overwritten, since there was no way to enforce version control. This resulted in significant wasted time since users had to recreate their work or seek assistance from IT staff in order to recover lost documents. This problem will be eliminated by the deployment of Windows SharePoint Services, which ensures effective and consistent version control by providing file check-in and check-out capabilities. This will also help ensure that users are always accessing the most current version of any file.

Darron Smith adds "Team collaboration using [Windows] SharePoint Services-based team sites will enable our information workers to be much more productive across a wide array of activities and projects. It will enable our users to work more effectively in teams as they create, search for, and share a broad variety of information in local team sites and across corporate intranet sites. It will be much easier for us to provide business intelligence and data analysis capabilities, since we

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Intranet Program Manager
Honeywell ACS

will have better access to enterprise data, and a set of easy to use tools like Microsoft Excel-based PivotTables® views and OLAP cubes.

Unified Platform: Windows SharePoint Services Leads the Way for Enterprise Portal

Building team workspaces from the ground up empowers information workers at the team level, providing exponential returns and bottom line results. It's also an important evolutionary step in deploying an effective enterprise portal strategy. Using SharePoint Portal Server, ACS will develop a comprehensive intranet portal architecture that can grow as the company's needs evolve and provides new value-added capabilities. New functionality includes:

- **Enterprisewide organization.** SharePoint Services and SharePoint Portal Server share a common architecture. Therefore, using them together enables project- and team-related sites to be searchable, both within and across local intranet sites. This helps developers catalog SharePoint Services-based team site content that is distributed across the enterprise, and enables site users to use Web services to query for desired content.
- **Enterprisewide data search.** Finding and reusing internal information enterprisewide was a high-priority that the previous ACS intranet environment did not support. Although intranet users were able to create and publish data, they had no systematic way to search within or beyond their own team site. SharePoint Portal Server will enable all workers throughout the company to crawl and index all of their team sites, portal sites, file shares and more. Once indexed, information workers can use a single search interface to find relevant information. Data searches will no longer be difficult and time-consuming, and individual and team productivity is anticipated to improve.
- **Centralized management.** ACS's initial portal and server consolidation efforts will reduce the complexity of managing team workspaces by bringing them all under a single domain. This enabled system administrators to consolidate functionally related sites so they can easily manage the entire environment from one central location. ACS will be able to enforce consistency across site management policies, interface design, provisioning and decommissioning policies, and a number of other functions that are critical for deploying and managing team sites.
- **Single security model.** Windows SharePoint Services takes advantage of a centralized structure and management framework that will enable administrators to assign sites to specific portals and to control data access from a centralized location. It will also simplify enterprisewide security by providing single-sign on.

Sam Wilson, Intranet Technical Lead at Honeywell ACS, said "Enterprise search capability will help users locate information throughout the company. It's powerful and easy to use, and it will assist us to find information that we had only been able to access at the team level. Now everyone is increasingly aware and informed about related projects and resources so they can use them more effectively while eliminating a lot of duplicated efforts. This will also help improve our business intelligence capabilities and help make the company more agile so it can respond more rapidly to changing market demands."

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Sam Wilson
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A Scalable, Extensible, and Manageable Information Worker Infrastructure

At the time ACS embarked on simplifying the complexity and administrative challenge brought on by the proliferation of ad hoc team sites their number had reached nearly 2,000 and content management had become a problem.

Using Windows SharePoint Services, Honeywell ACS is developing an enterprise-level strategy for consolidating dozens of distributed servers and thousands of sites that were individually managed throughout their global offices. This practice will enable ACS to manage its entire intranet from a centralized location and reduce the number of sites to just over 125, a 75 percent decrease. Honeywell anticipates that this will result in reducing the cost of developing, purchasing, and managing external and internal intranet resources.

A Scalable Platform and Efficient Site Management Improve IT Productivity

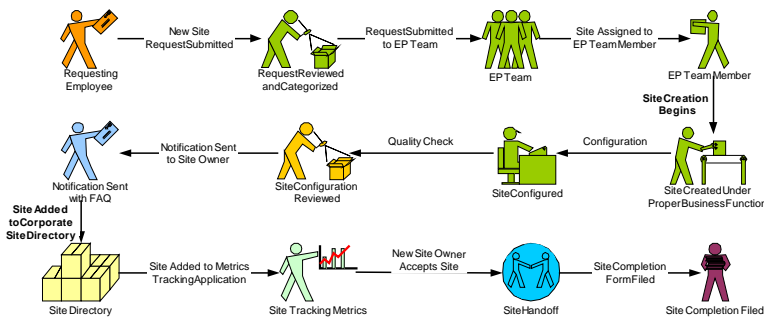
Managing existing team workspaces is challenging enough; what is more important is establishing a structure for efficient provisioning and management of new sites within the context of a broader enterprise portal strategy. Windows SharePoint Services and SharePoint Portal Server enabled:

- Site creation and setup at the team level.** Local teams found it difficult and time consuming to develop sites without a standard approach for moderating content and providing critical functionality gained benefit from a centralized site provisioning and management process. Previously site provisioning was a time-consuming 11-step process that required 6 individuals in 4 different regions over 24 to 48 hours.

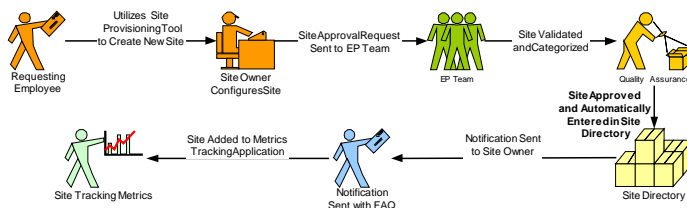
With nearly 2,000 existing sites requiring either content migration or retirement, ACS needed tools and services that could help its IT professionals standardize site creation while delivering a consistent look and feel. They are developing a system that will be virtually self service, thereby enabling local teams to develop sites based on ACS-wide standards. The site itself will be created in less than a minute, and the approval process of adding the site to the company-wide site directory will take less than an hour.

The following figure illustrates the previous site creation process and the new streamlined self-service provisioning process at ACS.

Before - Team Workspace Provisioning Process - 11 Steps in 24 to 48 Hours



After - Self-Service Team Room Provisioning Process - 6 Steps in Less Than 1 Hour



“Windows SharePoint Services has promoted information sharing by enabling us to use Web Parts as common structural elements in team workspaces and information portals throughout the company.”

Darron Smith
Intranet Program
Honeywell ACS

ACS developers will use Web Parts to simplify and accelerate the site provisioning process. By using templates in Windows SharePoint Team Services, and by developing reusable Web Parts¹ with Microsoft Visual Studio® .NET, ACS developers are able to substantially reduce the time it would have taken them to create Web service-based team sites if they had to rely on manual coding processes.

ACS developers will also be able to extend this same advantage by using the Web Parts capabilities of SharePoint Portal Server 2.0. This will enable them to quickly create the functional building blocks needed for business process integration, creating a library of reusable Web services components that can be shared throughout the company.

Darron Smith continues “Establishing consistent standards for team sites while allowing individual teams the latitude to develop their own sites will empower our information workers while improving the efficient use of IT resources. The developer efficiency gained by combining Visual Studio .NET development tools and reusable Web Parts is especially important at ACS because we don’t have a large development group. For example, using this model we expect that our developers will in a single week able to create and set up more than 100 team workspace sites. During this next year we plan to migrate and consolidate all sites to the new environment.”

Sam Wilson adds “Windows SharePoint Services has promoted information sharing by enabling us to use Web Parts as common structural elements in team workspaces and information portals throughout the company. Our developers can use Web Parts to create reusable forms for team-related information such as document and contact lists, scheduling information, and reference resources in approximately 90 percent less time than with manual coding methods.

“Using a standards-based approach we now have a consistent model for all team workspaces throughout the company. This will allow our information workers to focus on accomplishing their work and enable IT to manage the overall infrastructure more efficiently.”

Mike Parisi
Director, DigitalWorks
Honeywell ACS

Summary

Although the ACS intranet deployment began as a server consolidation project designed to improve management and reduce IT operating costs, the scope and importance of the deployment changed as ACS management recognized the usefulness of using Windows Server 2003 and Windows SharePoint Services as a foundation for developing an enterprisewide portal and team workspace solution.

Mike Parisi concludes “Developing a scalable enterprise information worker collaboration infrastructure based on Windows SharePoint Services has already provided tangible benefits. Using a standards-based approach we now have a consistent model for all team workspaces throughout ACS. This will allow our information workers to focus on accomplishing their work and enable IT to manage the overall infrastructure more efficiently.”

Table 1 summarizes the benefits that Honeywell ACS anticipates receiving by implementing a Windows Server 2003-based information worker collaboration strategy.

¹ A Web Part is an ASP.NET server control that, once installed on a server, can be added to any SharePoint site’s pages by site owners, or even individual users. Web Parts are designed to retrieve and render specific information that the developer wants to include in a page rendered in a SharePoint site. When a browser requests a Web Part Page, the server retrieves the Web Parts that make up a page, executes them, and uses the resulting blocks of HTML to construct the page it sends to the browser. For more information on Web Parts, and to see a directory of Web Parts developed both by Microsoft and a variety of third parties, go to: <http://www.microsoft.com/sharepoint/webparts>.

Business Goal	Strategy	Technology Solution	Projected Benefits
Enable teams and individuals to work more productively	<ul style="list-style-type: none"> ▪ Make collaboration more efficient by providing document versioning and check-in/check-out. ▪ Enable better decision making by more effective information sharing and improved data analysis. 	<ul style="list-style-type: none"> ▪ Windows SharePoint Services ▪ SharePoint Portal Server ▪ SQL Server Analysis Services ▪ Excel PivotTables 	<ul style="list-style-type: none"> ▪ Project information accessible across the enterprise. ▪ Improved collaboration processes. ▪ Document recovery and rework time reduced.
Reduce time and costs of site creation and setup	<ul style="list-style-type: none"> ▪ Use Windows SharePoint Services to simplify and reduce time to provision sites. ▪ Use Web Parts and other extensions written with the Microsoft .NET Framework to ensure easy data exchange and code reuse. 	<ul style="list-style-type: none"> ▪ Windows SharePoint Services ▪ Microsoft .NET Framework ▪ Visual Studio .NET ▪ Web Parts 	<ul style="list-style-type: none"> ▪ Team workspace provisioning process streamlined from 11 to 6 steps saves 98 percent of time previously required. ▪ Set up more than 100 team sites up per week.
Reduce site management costs	<ul style="list-style-type: none"> ▪ Accommodate future system growth by scaling out and improving reliability. ▪ Centralized management reduces repetitive tasks of intranet management. 	<ul style="list-style-type: none"> ▪ Windows Server 2003 process and application isolation 	<ul style="list-style-type: none"> ▪ Time spent in routine administrative tasks reduced. ▪ Time spent setting and enforcing security and data access policies reduced.
Reuse internal information	<ul style="list-style-type: none"> ▪ Standardize on a single platform that enables data search and sharing throughout the enterprise. ▪ Web Parts allow retrieval and presentation of content and application data from a wide variety of sources 	<ul style="list-style-type: none"> ▪ Windows Server 2003 ▪ SharePoint Portal Server ▪ Web services ▪ XML-based standards ▪ Web Parts 	<ul style="list-style-type: none"> ▪ Information workers spend less time searching for data. ▪ All company data is accessible to search. ▪ Development time reduced. ▪ Web services code reused. ▪ Key data and applications of interest presented together in customized, organized pages.

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