

NIBBLE TEAM COLLABORATION



Solution Overview
2010

Nibble Computer Solutions Inc.



Nibble Team Collaboration

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 1-Jan-10 v1.1

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Introduction

The present document provides a general overview of the Nibble Team Collaboration Solution, a framework of products, procedures and prebuilt-components used by Nibble to quickly deploy systems to enhance communication and information sharing for you team.

The solution includes the following services:

Services	Products and Technologies
Advanced eMail and Collaboration Services	MS Exchange Server
Document Management, Process Workflows and Team Services	MS Windows SharePoint Services
Personal Productivity and Process Automation	MS Office Suite
Voice, Remote Access and Conferencing	Instant Messengers, VOIP, MS Terminal Services, MS SharedView and more...

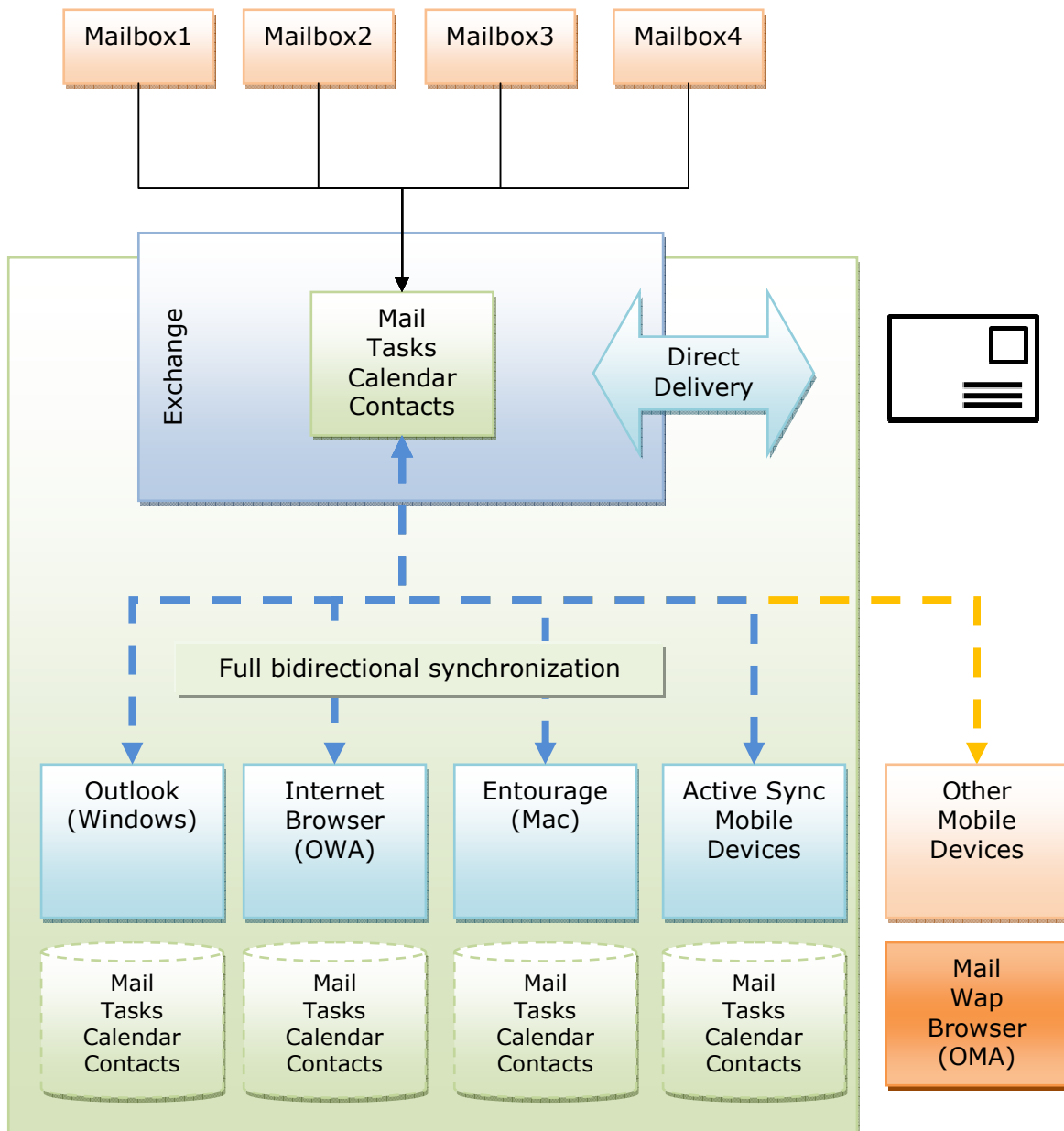


MS Exchange Server

Advanced eMail and Collaboration Services

Solution Overview

Consolidate all your mailboxes into one single centrally stored container which automatically synchronizes messages, calendar, contacts and tasks among all your email clients and mobile devices; in addition share any stored information with your team;





Solution Details

- **Data synchronization** is done through a local network connection as well as through the internet using standard protocols (no VPN required); the default use of data encryption keeps your data secured.
- There are several options to access and interact with your Exchange mailbox:
 - **MS Outlook** on Windows workstations providing the best feature set and integration with Exchange
 - **MS Entourage** on Mac workstations, same features as Outlook
 - A generic Internet Browser access your mailbox through **Outlook Web Access** a web interface providing most of the features available in Outlook just without owning one; access you mailbox from any internet connected computer
 - Any **Exchange Active Sync** compatible device (see below)
- The master copy of your **data is stored** on the server and is protected by redundancy systems like hardware mirror disks and automatic backup procedures; if ever one of your client crashes you can easily create a new one obtaining a full replica of your whole mailbox.
- **Message delivery** is immediate, secure and fast for intra-team messages (most likely representing a large percentage of all the communications); inbound and outbound connections with the external world (internet email) is done through centrally managed and fully tracked connectors; this architecture provides the best control over the data exchanged with the internet allowing journaling, bandwidth throttling, antivirus/antispam and general filtering to be set up.
- Being based on a real database the Exchange infostore allows **unlimited sharing of data among users**; any data folder (messages, contacts, tasks, meetings...) can be shared directly by the end users simply indicating who is allowed to access the data and the level of permission (read, read/write, send on behalf...); in addition to personal mailboxes the information can be stored into Public Folders for which groups of users can be authorized for different levels of access.
- Several **custom actions** can be executed on different events like on message receipt; the end user can easily define rules to automatically execute actions for messages fulfilling certain conditions (move all the messages from a specific address to a special folder); the rules are evaluated on the server even if Outlook is not open or even if you don't own an Outlook at all!
- The Exchange platform allows many different level of **customizations** both on the client side (VBA in Outlook) or on the server side (event based scripting or advanced programming through MAPI)

Mobile Devices Support

Mobile devices are synchronized wirelessly through either Wi-Fi or your telephone provider cellular network (GRPS, EDGSE, 3G...) thanks to the Direct Push support provided by Exchange Active Sync; no cable is required! No need to pass through your desktop/outlook!

The choice of devices is quite large including:

- Windows Mobile Devices (HTC, Samsung, Sony Ericsson, Toshiba, HP, LG, Motorola, Palm Treo, ASUS, MWg ...)
- Google Android devices (HTC, Samsung, Sony Ericsson)
- iPhone devices
- Nokia Eseries devices
- Sony Ericsson



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- Motorola
 - Symbian devices
 - Palm XT

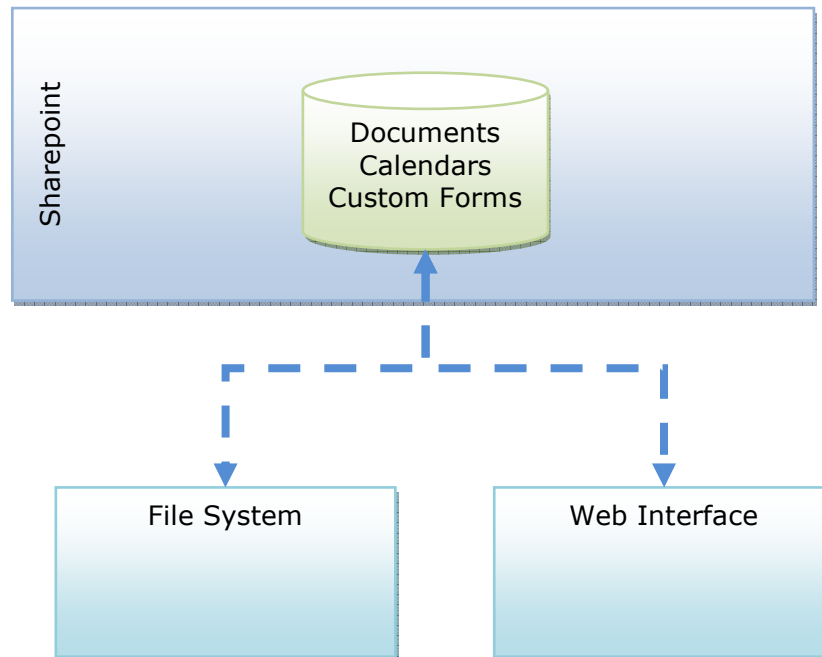
Integration with other devices such as **Blackberry** is supported by using standard protocols like POP3/IMAP4 or by directly accessing the mailbox on the server using a generic WAP browser (Outlook Mobile Access); the synchronization between these devices and Exchange is limited to mono-directional replication of email messages; tighter integration can be provided through a server-side integration service (BlackBerry Enterprise Server) which enable full bidirectional replication between Exchange mailbox and the BlackBerry device.

MS Windows SharePoint Services

Document Management, Process Workflows and Team Services

Solution Overview

Store your documents into a central storage you can access through the internet as a normal network share or through a user friendly and powerful customizable user interface.



Solution Details

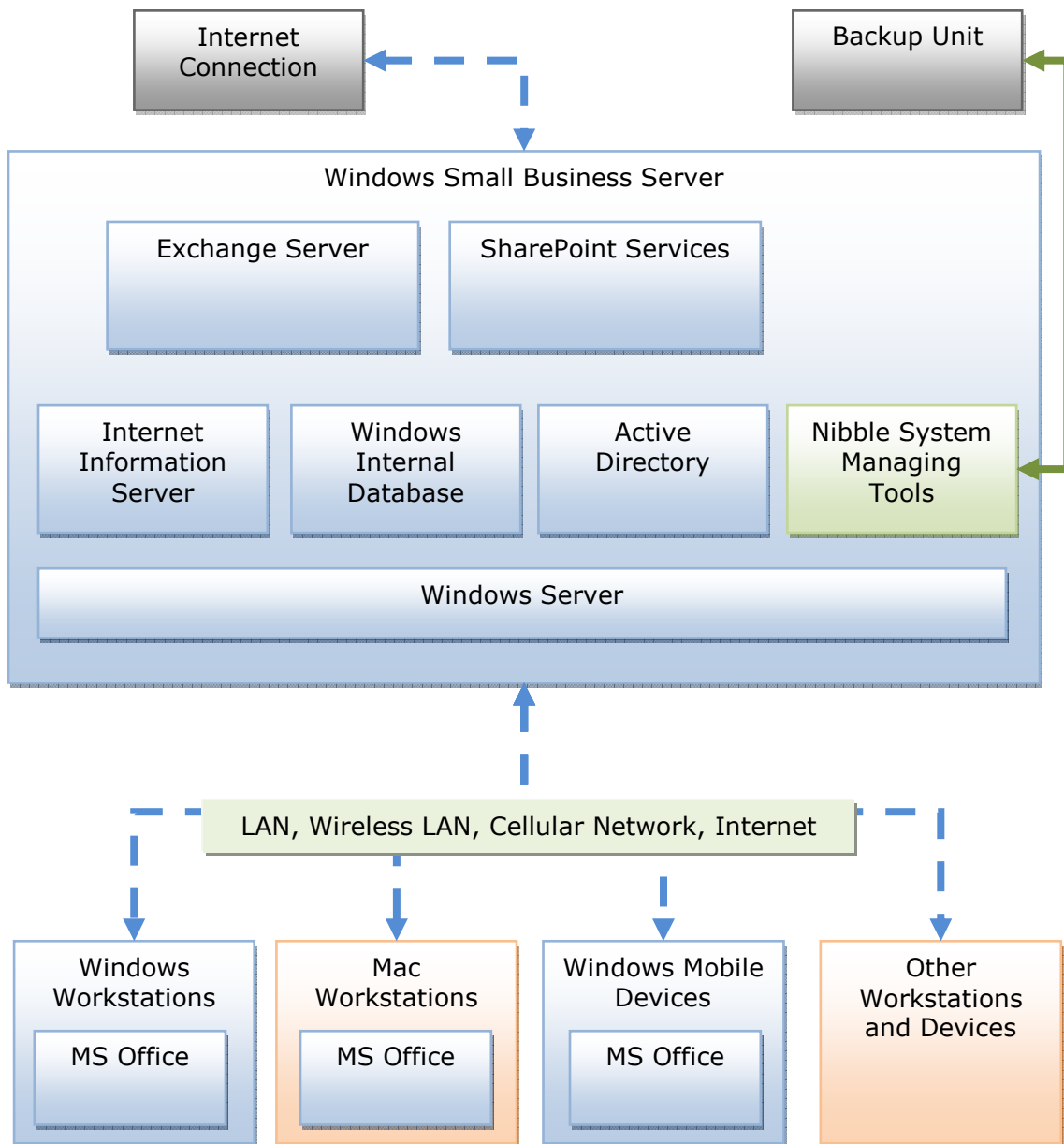
- Rich and User friendly Web based User Interface fully integrated with MS Office tools
- File system interface to provide documents access from any program (WebDAV)
- Access the repository from anywhere through a generic internet connection (no VPN required)
- Document managing functions:
 - check out/check in
 - versioning
 - updates notifications
 - free text search
- Community services
 - Calendars
 - Tasks
- Custom Documents List, Forms and workflow processes
- Permissions at document, folder and library levels
- Fully customizable website layout and content



System Architecture

Architecture Overview

The present solution is based on MS Windows Small Business Server which provides all the components to implement the services described in this document; the Nibble System Managing Tools provide additional functions to automate backup procedures and remotely monitor critical system parameters.





Architecture Components

- **Exchange Server** provides the messaging and collaboration services
- **SharePoint Services** provide the document management services
- **Internet Information Server** provides the web user interface and the internet connectivity between the server, the clients and other external servers
- **Active Directory** stores user and network object identities implementing the main services to provide user authentication and object-level security
- **Windows Internal Database** is an OS built-in database based on the same engine of MS SQL Server and used by SharePoint Services for data storing.
- **Windows Server** provides platform services including networking, files and printer sharing, remote access services (remote terminals and VPN) and more...
- **Nibble System Managing Tools** is a set of run time services included in the solution to ensure proper system reliability and manageability:
 - a. **Nibble BackupCtrl**; this tool automatically executes data backup using external HD; the tools performs a number of functionalities including: backup size calculation, backup unit presence and free space, backup output file verification, backup history cleaning and full email and web reporting.
 - b. **Nibble Monitoring Tools**; a set of tools performs constant automatic checking of the critical part of the system including: memory and disk free space, backup and other jobs execution, network connection and devices availability, system event log errors and warning.
- The **internet connection**, usually provided by an ADSL modem with NAT & port forwarding capabilities, allows remote workstations and server to communicate with the local services.
- The **Backup Units** are a set of external Hard Drives (USB) used to store the daily data backups
- A set of different **Workstations** can be used to access the solution services either through a local (wireless or wired) network connection or through the internet (ADSL modem, cellular network, ...)

Solution Requirements

Recommended specifications to activate all the services included in this solution: Exchange, SharePoint, file/printer sharing, network remote access (VPN) for about 15-20 users:

Server		
CPU	1 GHz or faster	Intel Pentium/Celeron family or the AMD K6/Athlon/Duron family
RAM	4GB	
HD	500+500 GB in RAID1	The mirror guarantee continuity
Backup Unit	2 or more 500GB USB 2.0 ext Hard Drives	
Software licenses	1 Server license plus 1 CAL for each user accessing the system	
Workstations		
OS	Windows XP Professional or Windows Vista Business	
Software	MS Outlook and other MS Office tools	
HW	Appropriate HW	



Network		
LAN	100/1000 Mbps Wired and/or wireless LAN	
Internet Connection	1Mbps or faster with a Static IP address	
Email Domain(s)	Public registered domain	

Solution Implementation

Implementation Steps

The solution is implemented by completing the following steps:

- Requirements Analysis & Draft Solution Design
 - collecting and understanding the requirements by mean of interviews with the customer; information such as the following must be collected in order to design the proper solution:
 - existing architecture (server, network, workstations)
 - number of users
 - number and size of mailboxes
 - number of email domains and external mailboxes
 - size and growing ratio of the document storage
 - number and type of workstations and devices that need to be connected
 - high level design of the solution defining all the components that need to be developed, and the activities required to deploy the solution
 - **completing this step allows proper planning and cost calculation for the following steps.**
- Detailed Solution Design
 - Defining in details the server specification and the data managing processes.
 - Detailed definition of the software architecture of the solution
- Solution Deployment
 - Server/network installation or upgrade
 - Exchange Server configuration
 - SharePoint Services configuration
 - Workstations and devices configuration
 - Data Import
 - System Management Services configuration
 - Test and tuning
 - System documentation and Training

The actual deployment of the solution may require also the following:

- Hardware and software products specification and purchasing
 - Server HW & SW
 - Backup units
 - Internet domain registration



Resources

Exchange Server	http://www.microsoft.com/exchange
Windows SharePoint Services	http://technet.microsoft.com/en-us/windowsserver/sharepoint/default.aspx
Windows Small Business Server	http://www.microsoft.com/sbs
SQL Server	http://www.microsoft.com/sql
Examples of Windows Mobile devices	http://www.expansys-usa.com/s.aspx?sid=21973270&nf=1&cat=WINPHONE
Examples of Android devices	http://www.expansys-usa.com/smartphone/google-android
list of Active Sync supported synchronization features	http://technet.microsoft.com/en-us/library/bb232162.aspx