## Setting Up a Macintosh For Use In The Medical Center

The purpose of this document is to provide some assistance and direction to the users of Macintosh computers in The Medical Center network environment. It will describe some proposed standards for minimum supportable configurations that will be able to function in the network effectively. It will describe some configuration information to allow the Macintosh to utilize the Active Directory and Exchange server capabilities. While the standard computer in The Medical Center is the Windows-based computer, Macintoshes configured appropriately can utilize most of the Windows-based enterprise facilities and can provide additional capabilities. This document hopes to make those capabilities easier to implement.

Non-current versions of the Macintosh operating system (OS 9 and before) make heavy use of Appletalk as a networking protocol. It is preferable to use IP as a networking protocol for many reasons, especially in a Windows-based enterprise such as The Medical Center. For this and other reasons, any Macintosh operating system prior to OS 10.3 (also called Panther) should be considered as a candidate for retirement. Software specifically designed to run under OS X is much more easily supported than programs written for OS 9 and run under emulation.

Minimum configuration:

Macintosh G4 or iMac OS 10.3.4 512 MB RAM Microsoft Office 2004 Other software written specifically for OS X

This configuration is based on the minimum hardware required to run the modern Macintosh operating system, OS X. While earlier computers might be able to run OS 10.3.4, supporting these computers would be very difficult. Versions of Macintosh OS X prior to 10.3 did not easily support Active Directory. Microsoft Office 2004 contains Entourage, the Exchange-based email package marketed by Microsoft. Third party software for these OS X based machines should be written specifically for OS X. Older software that is run in emulation (called Classic mode) should be discouraged whenever possible as conflicts and system crashes are much more common with this older software. Users should thus plan on acquiring a complete new and OS X designed suite of software before transitioning to OS 10.3.4.

## Configuring a Macintosh to use Active Directory

There are multiple purposes for using Active Directory on a Macintosh. Only an authorized domain user can sit down at the Mac and log onto it. No local account needs to be set up before a domain user can use the Mac. Domain Admins and other enterprise support personnel can inventory and monitor the Mac remotely. Access to network

resources is improved. Security is much improved, especially versus OS 9 with was wide open for anyone who wanted to sit down at the Mac.

This section assumes that the user has OS 10.3.4 for the operating system and has logged in with Administrator rights on the computer. Instructions for configuration of other versions of the Mac OS may differ.

Boot the machine with the network cable attached to an active port and log in with Administrative rights.

Open Applications/Utilities/Directory Access

Click the lock in the lower left corner to enable changes if necessary Click the Service tab and highlight and enable Active Directory

Enable	Name Active Directory	Version 1.0.3
	AppleTalk RSD Flat File and NIS	1.1
	LDAPv3	1.6.3
	NetInfo	1.6
1	SLP	1.1
	SMB	1.1.2
Fia	ure 1 Configure	)

Click Configure and fill in the screen as shown

000	Dire	ectory Access
Active Directory Forest:	med	ctr.ad.wfubmc.edu
Active Directory Domain:	med	ctr.ad.wfubmc.edu
Computer ID:	2500	0-8000010
		Unbind
Hide Advanced Options		LU63 C/6
🗹 Cache last user logor	n for d	offline operation
🗹 Authenticate in multi	ple de	omains
🗌 Prefer this domain se	erver:	server.domain.com
		This domain server will be used when available
Map UID to attribute:		uniqueID
		This attribute will be used as the Unique ID
Allow administration	by:	Domain Admins,Enterprise Admins
		Enter group names separated by commas. All members of these groups will have administrator privileges on this computer.
Figure 2		Cancel OK

The Directory Forest and Domain are the same in our case. The Computer ID should be entered with the first 4 numbers of you department (just like PC's) and the last seven digits of the Mac serial number. (Get out your magnifying glass!) Then a user who can join the computer to the domain must hit the Bind button and enter their user ID and password. The MEDCTR domain will then add the computer account to the domain. You can check Cache last user login if you want but it will rarely be needed. Leave the other boxes alone.

Click OK to finish this dialog box and then click the Authentications tab. Select Custom Path under Search: and add the Active Directory path which should be shown as an additional option. The /NetInfo/root is the listing of local accounts and cannot be changed here.

0		Directory Access		
	Services	Authentication	Contacts	
Choo	ose where to se	earch for user authent	lication information.	
:	Search: Cu	istom path	•	
Directory No	de			- 11
/NetInfo/roo	ot			_
/Active Dire	ctory/medct	r.ad.wfubmc.edu		
/Active Dire	ctory/medct	r.ad.wfubmc.edu		
/Active Direc	directory nod	r.ad.wfubmc.edu es into your preferred	order for searching.	
/Active Dired Drag	directory nod	es into your preferred	order for searching.	

Click OK to finish this dialog box and then click the Contacts tab. Select Custom Path under Search: and add the Active Directory path which should be shown as an additional option. The /NetInfo/root is the local machine listing cannot be changed here.

Services       Authentication       Contacts         Choose where to search for contact information.       Search:       Custom path         Search:       Custom path       Image: Custom path       Image: Custom path         Directory Node       /NetInfo/root       /Active Directory/medctr.ad.wfubmc.edu         Drag directory nodes into your preferred order for searching.	0		Directory Access	
Choose where to search for contact information. Search: Custom path Directory Node /NetInfo/root /Active Directory/medctr.ad.wfubmc.edu		Services	Authentication	Contacts
Search: Custom path  Directory Node /NetInfo/root /Active Directory/medctr.ad.wfubmc.edu Drag directory nodes into your preferred order for searching.	(	Choose where	e to search for contac	t information.
Directory Node /NetInfo/root /Active Directory/medctr.ad.wfubmc.edu Drag directory nodes into your preferred order for searching.	Se	arch: Cu	stom path	•
/NetInfo/root /Active Directory/medctr.ad.wfubmc.edu Drag directory nodes into your preferred order for searching.	Directory Node			
/Active Directory/medctr.ad.wfubmc.edu Drag directory nodes into your preferred order for searching.	/NetInfo/root			
Drag directory nodes into your preferred order for searching.				
Figure 4 (Remove) (Add)	Drag d	irectory node	es into your preferred	l order for searching.
Click the lock to prevent further changes Revert	laure	11161		

If you wish to use SMB mounts, highlight and enable SMB in the main Directory Access screen and hit Configure.

-	Workgroup:	MEDCTR	
Enable	WINS Server:	152.11.104.220	
2		Cancel	ок
₹	LDAPv3		1.6.3
	NetInfo		1.6
$\checkmark$	Rendezvous		1.1
	SLP		1.1
✓	SMB		1.1.2
Fig	ure 5	Configure	

Select the Workgroup (actually the MEDCTR domain in this case) and enter the primary WINS server IP address as shown. Hit OK to finish this dialog box.

Highlight and enable LDAP in the main Directory Access screen and hit Configure

000	Directory Acce	SS
	Location: Automatic	•
	Use DHCP-supplied	LDAP Server
Show Opti	ions	1.0.3
		Cancel OK
AAA	Netinfo Rendezvous SLP SMB	1.6 1.1 1.1 1.12
Fig	Jure 6 Configure	

The default option of Automatic works well.

This basically completes the integration of the Macintosh into the Active Directory. When a new user logs in, the Mac will ask them if they want a new Mobile, Managed account. If the user answers Yes, the Mac will create a new local account that authenticates through the domain controllers. It will also create a local home directory, library and other personal local resources for the user. Creation of these resources can be custom scripted if desired.

## Configuring a Macintosh to use Entourage with Exchange Servers

Entourage is a part of Microsoft Office 2004 and must be installed before it can be configured to work with an Exchange server. Under Entourage, select Account Settings



This will bring up a dialog box that will allow you to add users.

🧉 Entourage File	Edit View Message Format Tools Window Help 🐓 🛛 🌖 🐗
000	Mail
	New       Image: Subject       Image: Search
Mail Address Calendar Book Notes Tasks Project Center	Arrange By: Received Newest on top Today Contemporation of the second secon
<ul> <li>Folders on My C</li> <li>Inbox (1)</li> <li>Drafts</li> <li>Outbox</li> <li>Sent Items</li> <li>Deleted Items</li> <li>Junk E-mail</li> <li>Scott Kilbourne</li> <li>Inbox</li> <li>Drafts</li> <li>Sent Items</li> <li>Drafts</li> <li>Sent Items</li> <li>Junk E-mail</li> <li>Scott Kilbourne</li> <li>Inbox</li> <li>Drafts</li> <li>Sent Items</li> <li>Junk E-mail</li> <li>Inbox</li> <li>Drafts</li> <li>Sent Items</li> <li>Deleted Items</li> <li>Junk E-mail</li> <li>Imp.wfubmc</li> <li>Imp.wfubmc</li> <li>Imp.wfubmc</li> <li>Inbox</li> </ul>	Mail       News       Directory Service       Exchange         Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchange)         Image: Scott Kilbourne (Exchange)       Image: Scott Kilbourne (Exchang

Add a new user by clicking on Exchange and New. This brings up the following dialog box. Click Account Setting and fill in the information as follows.

Account name: Full name as recorded on the Exchange server Account ID: Your standard network login username Password: leave blank Domain: medctr.ad.wfubmc.edu Do not save your passwords in a Mac OS keychain. It defeats most of the desirable security features and makes for difficulties when changing passwords. Exchange server: owa.wfubmc.edu (the Exchange front end server) Name: Same as Account name

E-mail address: your standard email address (used as return address)

Account name:	Tom Roth
Account ID:	tomroth
Password:	
Domain:	medctr.ad.wfubmc.edu
	Save password in my Mac OS keychain
Exchange server:	owa.wfubmc.edu
Name:	Tom Roth
E-mail address:	tomroth@wfubmc.edu
	You can also enter Outlook Web Access server addresses, such as http://mail.example.com/exchange, into the Exchange server field. For more information, contact your Exchange server administrator.

Hit the Directory tab next and fill it in as shown below.

		_				
Account S	ettings	Mail	Directory	Advanced	Delegate	Security
	and 10	4				
.DAP server:	mac-10	4.meactr	r.ad.wtubmc.e	au		
Maximum nun	ber of r	esults to	return: 10	0		
earch base:	DC=mee	dctr,DC=	ad,DC=wfubm	nc,DC=edu		
Click here for	advanced	options	)			
and the second se		and the second second				

Hit the Directory tab next and fill it in as shown below.

- Account Settings	Mail				
		Directory	Advanced	Delegate	Security
ublic folders server:	owa.wful	bmc.edu		NAMES - DO	
which ronization ontio	This serve	er is also use	d for free/busy	information.	
Synchronize all it	ems to ser	ver			
Synchronize only	items in th	nis category:		BCA	÷
O Synchronize all it	ems excep	t those in thi	s category:	BCA	\$
O Don't synchronize	e items to	server			
Reset Synchro	nization	$\supset$			
ecurity					
DAV service req	uires seci	ure connecti	on (SSL)		
Override default	t DAV por	rt: 80			
				(	

Hit OK to finish setting up the Exchange account.

Next you need to set up the search directories for finding email addresses that are not in you personal Contacts list. Entourage will automatically suggest names as you type them into the To: field when sending emails, but searches to further global directories need to be set up. Go back to Entourage Account Settings but this time select Directory Service. The user name shown is for the email account just set up and its local contact list. We will now set up the WFUBMC and WFU Reynolda directories.



Hit Directory Service and then New which will bring up the following dialog box.

- (	Account Settings Options
Account name:	WFUBMC
Server informat	ion
LDAP server:	mdc-104.medctr.ad.wfubmc.edu
This serve	er requires me to log on
Account ID:	biomed
Password:	
	Save password in my Mac OS keychain
	Click here for advanced options

Fill it in as shown (using your own account and Password, but do not use keychain which is shown as an error here. Then hit the Options tab and you get

	Account Settings	Options
rver options Maximum nu Search timeo	mber of results to r ut: 60 seconds	eturn: 100
Short	0	Long
Search base:	DC=medctr,DC=ad	,DC=wfubmc,DC=edu
Use simp	le search filter	

Be careful and copy the Search base EXACTLY as it is here and then hit OK. If you want to add the Reynolda campus directory, here are the corresponding screens.

(	Account Settings Options
Account name:	WFU - Reynolda Campus
Server informat	ion
LDAP server:	ldap.wfu.edu
This serve	r requires me to log on
Account ID:	
Password:	Save password in my Mac OS keychain
	Click here for advanced options
ssist Me	Cancel Ok
	Edit Account
(	Account Settings Ontions
	Account Settings Options
Server options	Account settings options
Server options Maximum nur	nber of results to return: 100
Server options Maximum nur Search timeou	nber of results to return: 100
Server options Maximum nur Search timeou Short	mber of results to return: 100
Server options Maximum nur Search timeou Short Search base:	nber of results to return: 100
Server options Maximum nur Search timeou Short Search base: Use simpl	nber of results to return: 100 🗘 at: 60 seconds Cong Con
Server options Maximum nur Search timeou Short Search base: Use simpl	mber of results to return: 100 (*) at: 60 seconds Long 0=wfu,c=us e search filter
Server options Maximum nur Search timeou Short Search base: Use simpl	nber of results to return: 100 ( t: 60 seconds Cowfu,c=us e search filter
Server options Maximum nur Search timeou Short Search base: Use simpl	nber of results to return: 100 🗘 at: 60 seconds Long 0=wfu,c=us e search filter
Server options Maximum nur Search timeou Short Search base: Use simpl	nber of results to return: 100 🔅 at: 60 seconds Long o=wfu,c=us e search filter
Server options Maximum nur Search timeou Short Search base: Use simpl	nber of results to return: 100 at: 60 seconds Long o=wfu,c=us e search filter
Server options Maximum nur Search timeou Short = Search base: Use simpl	nccount Settings Options mber of results to return: 100 🔅 it: 60 seconds Long 0=wfu,c=us e search filter

No password authentication is required at WFU Reynolda for directory access.

## Summary

These are the basics of setting up a Macintosh with OS 10.3.4 to work with Active Directory and Exchange servers here. It might be helpful to state again that versions of the Mac OS prior to 10.3 (Panther) and applications not specifically written for OS X may be much more difficult to implement or support.