Network Identity Manager 1.3.1 User Documentation

MIT Kerberos for Windows Release 3.2.2

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What Is Network Identity Manager?



Network Identity Manager (NetIdMgr) is a graphical tool designed to simplify the management of network identities and their credentials which are used by network authentication protocols while providing secure access to network services. When NetIDMgr is used with Kerberos v5, each Kerberos v5 principal name is a network identity and the credentials are Kerberos v5 tickets. Kerberos v5 tickets can be used by NetIDMgr to obtain Andrew File System (AFS) tokens^{*}, and X.509 public key certificates⁺.

When you log into Microsoft Windows with a domain account, your account name and the Windows Domain name when combined form a Kerberos principal name. As an example, "WINDOWS\user" is actually a short form representation of user@WINDOWS.DOMAIN. Microsoft Windows uses Kerberos-based network identities for all domain-based network authentications.

Since Microsoft Windows already provides a network identity, why do you need NetIdMgr? Here are some examples:

- 1. Your only network identity is your Windows Domain account but you have third-party applications that rely on MIT Kerberos for authentication for access to remote files, e-mail, web data, or other services. In this scenario, NetIdMgr will automatically import your Windows Domain credentials into a form that can be used by applications that rely on MIT Kerberos.
- 2. You do not have a Windows Domain account but you must obtain network credentials in order to securely access a network service. In this scenario, NetIdMgr can be used to obtain new credentials for network identities and can automatically renew them before they expire.
- 3. You have Kerberos credentials for a network identity and you have third-party applications that require an alternative form of network credential, such as an AFS token or a X.509 certificate, which can be obtained via a Kerberos authentication. In this scenario, NetIdMgr can automatically use your existing credentials to obtain and renew the additional network credentials types.
- 4. You have a Windows Domain account but you need to authenticate to a service belonging to a Kerberos realm outside the Windows Domain. In this scenario, NetIdMgr can be used to manage multiple network identities, the Windows Domain identity as well as the additional Kerberos identity required for the external network services.
- 5. You have multiple network identities within the same Kerberos realm which are used for different roles. For example, an unprivileged user identity and a privileged identity that is only meant to be used for system administration. In this scenario, NetIdMgr can be used to obtain credentials for all of your identities and automatically renew them as necessary.

NetIdMgr's automated credential acquisition and renewal makes it an invaluable tool necessary when providing users with a Single Sign-on experience.

NetIdMgr is most commonly configured as a StartUp item and remains running with an icon in the Taskbar Notification Area until you logout. While running, NetIDMgr automatically renews your credentials, notifies you of pending expirations and prompts you when a Kerberized application requires credentials that have not already been obtained.

When configured to do so, NetIdMgr will prompt you immediately after it starts to obtain Kerberos credentials. This is often referred to as logging on to Kerberos. NetIdMgr does not perform a logon in the sense of the Windows Logon Service. A logon service would do more than manage Kerberos tickets. A logon service would authenticate you to the local machine, validate access to your local file system and

^{*} A OpenAFS plug-in is distributed with OpenAFS for Windows release 1.5.9 and above.

⁺ A Kerberized X.509 Certificate Authority plug-in is available from http://www.secure-endpoints.com

performs additional set-up tasks. These are beyond the scope of NetIdMgr. NetIdMgr simply allows you to manage Kerberos identities on behalf of compatible applications and to change your Kerberos password.

How to Start Network Identity Manager

There are many ways to start Network Identity Manager. In addition to clicking on a Network Identity Manager shortcut, you can start NetIdMgr from the Windows command Prompt or Start Menu Run... option. NetIdMgr supports a number of command-line options which may be specified.

- If you run NetIdMgr with the options -i or --kinit, it will display the obtain new credentials dialog and exit;
- -m or --ms2mit or --import will import tickets from the current Microsoft Windows logon session (if available) and exit;
- -d or --destroy will destroy all existing tickets and exit; -r or --renew will renew existing Kerberos tickets (if possible) and exit;
- -a or --autoinit will display the ticket initialization dialog if you have no Kerberos tickets.

Other command-line options:

- -x or --exit will signal a previously started instance of NetIdMgr to exit.
- --hide and --show can be used to close or open an existing NetIdMgr application window.
- --minimized can be combined with other commands to start the NetIdMgr application in minimized mode.

You may create a shortcut to NetIdMgr within your Windows Startup folder (Start Menu->Programs->Startup) if one has not been created for you by the MIT Kerberos for Windows installation package. A shortcut to "NetIdMgr.exe --autoinit" ensures that Kerberos tickets are available for the use of Kerberized applications throughout your Windows logon session.

Obtaining Credentials

When Network Identity Manager starts, if it is configured to **obtain new credentials at startup (if none are present)** and no credentials are present, the Obtain New Credentials dialog will be displayed.

🚺 Obtain i	new cred	entials			? 🗙
Username					•
Realm					-
			Qk	<u>C</u> ancel	≥>

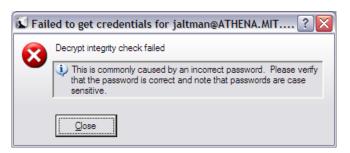
This dialog prompts you for the Username and Realm. The Username field can be used to enter the entire Kerberos principal name.

🚺 jaltmano	⊋ATHENA.MIT.EDU - New credentials	? 🗙
Username	jaltman@ATHENA.MIT.EDU	-
Realm	ATHENA.MIT.EDU	-
Password for	jaltman@ATHENA.MIT.EDU	
	<u>Ok</u> <u>C</u> ancel	≥>

If the entered name can be verified, you will be prompted to enter your password. If the entered name cannot be validated, you will be presented an error message.

🚺 Obtain	new credentials	<
Username	invalid-user	I
Realm	NOT-A-REALM	I
	Validity of identity invalid-user@NOT-A-REALM couldn't be determined.	
-	k. <u>C</u> ancel ≥>	

If the password is successfully entered, your credentials will be obtained. If not, you will be presented with a balloon in the notification area of the Windows Task Bar. Clicking on the balloon will provide you additional information regarding the error condition. For example:



For additional information on the Obtain New Credentials dialog, see the section on the **Credential->New Credentials ...** menu item later in this document.

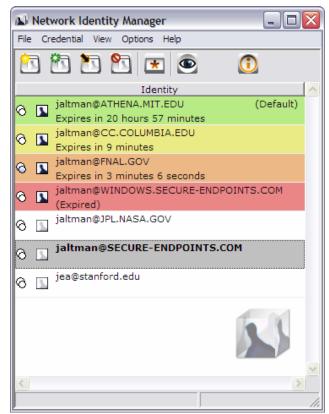
Network Identity Manager Application Window

The Network Identity Manager application window when open displays the current status of your network identities and provides you the tools necessary to obtain new credentials, renew existing credentials, destroy credentials, change your password, configure the behavior of your network identities, and access the on-line help. There are two primary views of network identity status: basic and advanced.

In the basic view, the window title contains the name "Network Identity Manager". Below the title are a menu bar; a tool bar; and a list view. The background of application window contains a watermark, the Network Identity Manager logo.

The NetIdMgr basic view displays a list of network identity names (aka Kerberos principals, user@REALM). Each entry appears with a push-pin or button and an Identity icon to its left. Below the identity name is the remaining lifetime of the identity's credentials.

The Network Identity Manager manages



multiple identities. Most applications do not know how to request a specific identity or how to search for the appropriate credentials cache. Instead these applications assume that the identity to be used is stored within the default credentials cache. NetIdMgr allows one identity to be specified as the **default identity**.

The push pin buttons are used to choose whether an identity should be displayed even when there are no credentials. Conditional indicates that the identity will be displayed when there are no credentials. The push pin button act as a toggle between the two states.

In the above image, there are many identities listed. jaltman@ATHENA.MIT.EDU is the default identity and it has valid credentials (green) that will expire in 21 hours and 10 minutes. The jaltman@CC.COLUMBIA.EDU and jaltman@FNAL.GOV identities also have valid credentials which are about to expire (yellow and orange). The jaltman@WINDOWS.SECURE-ENDPOINTS.COM identity has expired credentials (red). The other identities have no credentials but are listed because they are pinned. The jaltman@SECURE-ENDPOINTS.COM identity is selected with the cursor (grey). Other configured identities exist but they neither have credentials nor are they pinned. In the advanced view, the window title contains the name "Network Identity Manager". Below the title are a menu bar; a tool bar; and a tree view. The background of application window contains a watermark, the Network Identity Manager logo.

de			-	nager ions H					
•	>		6			•			
1		7	1	*	9				
Id	entity		1	Type		Service Name	Time Remaining	Renewable Time left	Kerberos v5 Flags
			man			IT.EDU (Default)	I mile Kentahing	T Renewable Time left	Kerberos vo riags
		1				credentials			
			_	ter ber	00 10	krbtgt/ATHENA.MIT.EDU@ATHE	20 hours 50 minutes	6 days 23 hours	FRI
						afs/athena.mit.edu@ATHENA.M		6 days 23 hours	FR
						afs/dev.mit.edu@ATHENA.MIT		6 days 23 hours	FR
						afs/iastate.edu@IASTATE.EDU	20 hours 50 minutes		FR
						afs/net.mit.edu@ATHENA.MIT.E		6 days 23 hours	FR
						afs/raeburn.org@RAEBURN.ORG		6 days 23 hours	FR
						afs/soap.mit.edu@ATHENA.MIT		6 days 23 hours	FR
						afs@ANDREW.CMU.EDU	20 hours 50 minutes	6 days 23 hours	FR
						afs@CMF.NRL.NAVY.MIL	9 hours 36 minutes	0 seconds	FR
						afs@CS.CMU.EDU	20 hours 50 minutes	6 days 23 hours	FR
						afs@DEMENTIA.ORG	20 hours 50 minutes	6 days 23 hours	FR
						kca_service/clucky.andrew.cm			FR
						krbtgt/ANDREW.CMU.EDU@AT		6 days 23 hours	FR
						krbtgt/CMF.NRL.NAVY.MIL@AT	20 hours 50 minutes	6 days 23 hours	FR
						krbtgt/CS.CMU.EDU@ATHENA	20 hours 50 minutes	6 days 23 hours	FR
						krbtgt/DEMENTIA.ORG@ATHEN	20 hours 50 minutes	6 days 23 hours	FR
						krbtgt/IASTATE.EDU@ATHENA	20 hours 50 minutes	6 days 23 hours	FR
						krbtgt/RAEBURN.ORG@ATHENA	20 hours 50 minutes	6 days 23 hours	FR
				AFS cr	redenti	als			
						afs@andrew.cmu.edu	20 hours 50 minutes		
						afs@athena.mit.edu	20 hours 50 minutes		
						afs@cmf.nrl.navy.mil	9 hours 36 minutes		
						afs@cs.cmu.edu	20 hours 50 minutes		
						afs@dementia.org	20 hours 50 minutes		
						afs@dev.mit.edu	20 hours 50 minutes		
						afs@iastate.edu	20 hours 50 minutes		
						afs@net.mit.edu	20 hours 50 minutes		
						afs@raeburn.org	9 hours 36 minutes		
			_			afs@soap.mit.edu	20 hours 50 minutes		
				KCA C	Certific				
~	-			-		CMU CA ISAM user identity	20 hours 50 minutes		
Ø	7	jalti	_			IA.EDU			
				Kerbe	ros v5	credentials			
2		(a. 1)//	and a second			krbtgt/CC.COLUMBIA.EDU@CC	2 minutes 54 seconds		FI
ġ		jalti		FNAL.					
			<u> </u>	Kerbe	ros v5	credentials	(5)	C	
						krbtgt/FNAL.GOV@FNAL.GOV	(Expired)	6 days 23 hours	FIA
						afs@FNAL.GOV	(Expired)		FA
			Θ	AFC -	and contract	kca_service/modoc.fnal.gov@F	(expired)		FA
				AFS C	redenti		(Eveloped)		10
			Ð	VCAC	Certifica	afs@fnal.gov	(Expired)		
				NCA C	erunci		(Evoired)		
						Kerberized CA	(Expired)		

In its default configuration, the NetIdMgr advanced view displays a list of network identity names (aka Kerberos principals, user@REALM). Each entry appears with a \oplus or \ominus button, a \bigcirc or \bigcirc button and an Identity icon \square to its left. Click on the \oplus button of an identity to expand the branch, displaying a \Box button. Click on the \Box button to hide the branch.

Below each network identity, the tree lists credential categories. Below each credential category are the active credential locations and the current credentials belonging to the category. Each credential entry contains the current credential status, the service name and time remaining before expiration.

The tree updates once per minute. If you need an immediate update of your ticket status, you can press the Update Display button on the toolbar or the F5 key.

To the right of each credential is a flag icon representing one of the following states:

None	= credentials are valid
88	= credentials are valid and renewable
<u>:::</u>	= credentials are valid and the initial expiration warning has been issued
<u>:::</u>	= credentials are valid and the final expiration warning has been issued
\otimes	= credentials are invalid or expired

Attempts to renew renewable credentials are performed at half-life intervals and 15 minutes^{*} before expiration.

Network Identity Manager				X
File Credential View Options Help				
🔁 🖄 • 🎦 💁 • 💌 🕥	٥			
7 Identity Type Location	Service Name	Time Remaining		^
🗄 🙆 🚺 jaltman@ATHENA.MIT.EDU	(Default)			
🖸 🖯 🔕 🚺 jaltman@SECURE-ENDPOINTS.	COMS			
🖯 Kerberos v5 credentials				
API:jaltman@SECURE	-ENDPOINTS.COM			
🖸 krbtgt/SE	CVRE-ENDPOINTS.COM@SECVRE-ENDPOINTS	8 minutes		
😳 afs/secute-	endpoints.com@SECURE-ENDPOINTS.COM	8 minutes	1. 14	
AFS credentials				
AFS Cache Manager				
C afs@secure	-endpoints.com	8 minutes		~
3			2	
			3	11.

At 10 minutes and 5 minutes⁺ before your credentials expire, a balloon tip is displayed to warn that your credentials will soon expire and to provide you the opportunity to obtain new ones.

Network Identity Manager			X
File Credential View Options Help			
🔁 🔁 · 🛅 · 💌 🕥 🚺			
7 Identity Type Location Service Name	Time Remaining		^
🗄 🙆 🚺 jaltman@ATHENA.MIT.EDV (Default)			
👶 🖻 🗞 🚺 jaltman@SECVRE-ENDPOINTS.COM			
🖯 Kerberos v5 credentials			=
API:jaltman@SECURE-ENDPOINTS.COM			
ktbtgt/SECURE-ENDPOINTS.COM@SECURE-ENDPOINTS	4 minutes 34		
afs/secure-endpoints.com@SECVRE-ENDPOINTS.COM	4 minutes 34 sec	1. 14	
AFS credentials			
🖯 AFS Cache Manager			
afs@secure-endpoints.com	4 minutes 34 sec		~
3		12	
			11.

Credentials that can not be renewed will expire.

^{*} The actual time is configurable. 15 minutes is the default time. Automatic renewal may be disabled by using the Notifications Options page.

⁺ The actual times are configurable. 10 minutes and 5 minutes are the default times, Expiration warnings may be disabled by using the Notifications Options page.

Network Identity Manager	
File Credential View Options Help	
🔁 🛅 · 🛅 🞦 · 💌 💌 🚺	
Identity	_
jaltman@ATHENA.MIT.EDV CDefault Expires in 20 hours 38 minutes Contract of the second secon)
jaltman@SECURE-ENDPOINTS.COM	
jaltman@WINDOWS.SECURE-ENDPOINTS.COM	~
	>

Netv	work Identity Manager			
File Cre	edential View Options Help			
1	🛅 • 🎦 🞦 • 🖭 🕥			
7 Ide	ntity Type Location	Setvice Name	Time Remaining	
Ð	👌 🚺 jaltman@ATHENA.MIT.EDU	(Default)		
0 🗆	👌 🚺 jaltman@SECURE-ENDPOIN	TS.COM		
	Kerberos v5 credentials			
	API:jaltman@SECU	RE-ENDPOINTS.COM		
<u>0</u>	krbtgt/	SECURE-ENDPOINTS.COM@SECURE-ENDPOINTS	(Expired)	
0	afs/secu	re-endpoints.com@SECURE-ENDPOINTS.COM	(Expired)	1. 14
	AFS credentials			
1.0	AFS Cache Manager			
0	afs@sec	ure-endpoints.com	(Expired)	~
<				2

Andrew File System (AFS) token management is available only on machines that have installed OpenAFS for Windows[#]. KCA certificates management is available only on machines that have installed the Secure Endpoints Inc. KCA plug-in⁺.

Network Identity Manager Command Line Options

When NetIdMgr is executed from the command line one of the following command line options may be specified:

- --kinit, -i performs a Kerberos ticket initialization (and exits)
- --ms2mit, --import, -m imports credentials from the Windows Logon Session (and exits)
- --**renew**, -**r** renews credentials (and exits)
- --destroy, -d destroys credentials (and exits)
- --autoinit, -a performs ticket initialization only if the credential cache is empty
- --exit, -x closes any copy of netidmgr currently running in the same Windows Logon Session
- --hide and --show can be used to close or open an existing NetIdMgr application window.
- --minimized can be combined with other commands to start the NetIdMgr application in minimized mode.

[#] OpenAFS for Windows 1.5.9 or higher is required. <u>http://www.openafs.org</u>

⁺ The Kerberized Certificate Authority plug-in can be downloaded from http://www.secure-endpoints.com/.

Network Identity Manager Command Reference

File:

File	Credentia	l View	Options	Help
Pr	operties			
E	kit (Ctrl+X	_	

Properties...

From the File menu, will display the Properties dialog for the currently selected item whether it be an Identity or a Credential.

jaltman@	PATHENA.MIT.E	DU Properties	? 🗙		
Identity]				
Name	jaltman@ATHENA.MIT.EDU				
	Default identity	Always visible (sticky)			
		Searchable			
Prope	erty	Value			
Expire	s on	12/3/2005 4:43:56 PM			
Flags		FRI			
Issued	l on	12/3/2005 3:40:59 PM			
Krb5 C	Cache	API:jaltman@ATHENA.MIT.EDU			
Renev	vable time expires	12/10/2005 2:10:59 PM			
		Identity configuration .			
OK Cancel Apply					

An Identity Property dialog

krbtgt/ATHENA.MIT.EDU@ATHENA.MIT.EDU Prope 🔶 🔀					
Kerberos 5 Credential Identity					
Name	krbtgt/ATHENA.MIT.EDU@ATHENA.MIT.EDU				
Issued on 12/4/2005 6:34:21 PM					
Valid till	12/4/2005 7:37:15 PM				
Renewable till	12/11/2005 6:34:21 PM				
Ticket flags	12/11/2005 6:34:21 PM Forwardable Initial Renewable				
OK Cancel Apply					

A Kerberos v5 Ticket Property dialog

12/4/2005 7:37:15 PM		
FRI		
jaltman@ATHENA.MIT.EDU		
12/4/2005 6:34:21 PM		
DES-CBC-CRC		
1 hour 2 minutes		
API:jaltman@ATHENA.MIT.EDU		
7 days		
12/11/2005 6:34:21 PM		
krbtgt/ATHENA.MIT.EDU@ATHENA		
DES-CBC-CRC		
Kerberos 5 tickets		

Associated credential properties

The properties dialog can also be displayed by pressing the **S** button on the Identity header, by double clicking a credential, or by clicking on the credential status flag.

Exit Command

From the File menu, you can use this command to exit the Network Identity Manager.

Important Note

Exiting the Network Identity Manager will **not** destroy your current credentials. Unless you have chosen to delete credentials on exit from the General Configuration page, you need to use the destroy credentials command.

Credential:

File	Credential View Options Help		
	Obtain new credentials Ctrl+	N	
	Renew	►	Renew all identities
	Multiple Terror Market Ma Market Market Mark	I ▶	Renew jaltman@ATHENA.MIT.EDU Renew jaltman@CC.COLUMBIA.EDU
	✓ Set as default		Renew jaltman@FNAL.GOV
	Change password		Renew jaltman@WINDOWS.SECURE-ENDPOINTS.COM

New Credentials Command, Ctrl+N

This command is found under the Credentials menu; it is also the first button (from the left) in the toolbar. Use this command to obtain new credentials.

Jaltman@SECURE-ENDPOINTS.COM - New credentials				
Username	jaltman	•		
Realm	SECURE-ENDPOINTS.COM	-		
Password for	r jaltman@SECURE-ENDPOINTS.COM			
	<u>O</u> k <u>C</u> ancel	<u>></u> >		

When you select this command, NetIdMgr displays a dialog requesting your Username, Kerberos Realm, and Password; if these are correct, NetIdMgr will obtain tickets using either a known configuration for the entered identity (Username@Realm) or the default identity configuration if the identity has not been previously used.

If you wish to alter the configuration for the entered identity, activate the Advanced view by pressing the ">>" button.

Identity Kerberos v5 AFS Kerberos v4 KCA Certificate	1
Username jaltman	<u>O</u> k
Realm SECURE-ENDPOINTS.COM	
Password for jaltman@SECURE-ENDPOINTS.COM	ancel
<u>Credentials</u> Selected identity: jaltman@SECURE-ENDPOINTS.COM Not default identity. (make default) Krb5 : Tickets for realm SECURE-ENDPOINTS.COM AFS : Credential for cell secure-endpoints.com Krb4 : Disabled (click here to enable) KCA : Certificate for realm SECURE-ENDPOINTS.COM	
	<<
	lelp

In the Advanced view, a credentials browser window displayed along with tabs for each credential type that can be obtained for this identity. The credentials browser summarizes the state of the identity and which credentials will be obtained as part of a successful authentication.

Jaltman@SECURE-ENDPOINTS.COM - New credentials	? 🔀
Identity Kerberos v5 AFS Kerberos v4 KCA Certificate	
Kerberos v5 Credential Options	<u>O</u> k
Realm	
	Cancel
Lifetime 15 minutes	
Renewable for 7 days	
Can be <u>f</u> orwarded to other machines	
✓ Addressless	<<
	Help

Kerberos v5 options include the ability to select the ticket lifetime as well as renew and forwarding. The Kerberos v5 ticket granting ticket represents the selected identity. As such, obtaining a Kerberos v5 ticket is mandatory.

When **Forwardable** tickets are received from the Kerberos Server, these tickets can be forwarded to a remote host when you connect via telnet, ssh, ftp, rlogin, or similar applications. When tickets are forwarded, there is no need to obtain Kerberos tickets again to access Kerberized services on the remote host. **Forwardable** tickets are often required when authenticating to a remote host using ssh or ftp when the remote host requires the ability to authenticate to a remote file system such as AFS.

When **Renewable** tickets are received from the Kerberos Server, the ticket lifetimes may be renewed without prompting the user for her password. This allows Kerberos tickets to be issued with short lifetimes allowing compromised accounts to be disabled on short notice without requiring the user to enter a

password every few hours. When combined with **Automatic Ticket Renewal**, NetIdMgr can maintain valid tickets for a week, a month, or longer by automatically renewing tickets prior to their expiration. The ability to renew tickets without a password is limited by the ticket's renewable lifetime as issued by the Kerberos Server.

When **Addressless** is selected, the tickets do not contain IP address information. This enables the tickets to be used from behind Network Address Translators which are frequently found in Cable and DSL Modems.

Jaltman@SECURE-ENDPOINTS.COM - New credentials	? 🔀
Identity Kerberos v5 AFS Kerberos v4 Kerberos v4 Ticket Options Obtain Kerberos v4 credentials	Qk
Obtain Kerberos v4 credentials using C Automatically determine method C Kerberos v5 to v4 translation C Password	Cancel
	<< Help

Obtaining Kerberos v4 tickets is optional and may not be available on all systems. When available, Kerberos v4 tickets may only be obtained for the default identity. Kerberos v4 tickets may be obtained via use of a Kerberos v5 to 4 translation service or by a separate password based request. Selecting "Automatically determine method" will first try the translation service and if that fails, the password based request will be attempted. Automatic renewal of Kerberos v4 tickets can only occur if the translation service is used.

🚺 jaltman@S	ECURE-ENDPOIN	ITS.COM - New cre	dentials		? 🔀
Identity Kerber		rberos v4 KCA Certifi	cate		Qk
✓ Obtain <u>A</u> FS └─Credential for	credentials				
	athena.mit.edu		▲dd/Up	date	<u>C</u> ancel
<u>R</u> ealm	(Automatic)		•		
Method	(Automatic)		▼ <u>D</u> elet	te	
Cell		Realm	Metho	bd	
🔰 🛃 athena.mit	t.edu	(Auto)	(Auto	matic)	
Secure-end	dpoints.com	(Auto)	(Auto	matic)	
					<<
					<u>H</u> elp

Obtaining AFS tokens is only available on systems with an appropriate version of OpenAFS for Windows installed. An identity may be used to obtain tokens for multiple AFS cells. The Add/Update and Delete

buttons are used to manage the list of AFS cells. If the Kerberos realm associated with the AFS cell cannot be automatically determined, it may be entered manually. The method of AFS token acquisition is one of: "Automatic", "Kerberos v5", "Kerberos v5 to v4" or "Kerberos v4". Kerberos v5 based tokens should be used when possible. If not, the next best choice is the Kerberos v5 to v4 translation service. As a last resort, a Kerberos v4 ticket request can be used directly. In most cases, using "Automatic" will just work.

Network Identity Manager	Configuration ?X
Options for jaltman@\$	SECURE-ENDPOINTS.COM
ialtman@PIL jaltman@PIL jaltman@RA jaltman@SEi jaltman@TR jaltman@WI	General Kerberos v5 AFS Kerberos v4 KCA Certificate Image: Comparison of the structure of the st
jea@ATHEN jea@FNAL.C jea@stanfor jea@wWN.S* needchange	SECURE-ENDPOINTS.COM (Identity) (Automatic)
····□ tequila@AN[····□ trng07@UN(····□ vanilla@SLA	KCA Certificate Realm SECURE-ENDPOINTS.COM (Identity
Notifications	KCA servers to use (optional): Add / Update (Automatically determine KCA serve Remove
	Ok Cancel Apply

A Kerberized Certificate Authority certificate is an X.509 certificate that can be used with web browsers to authenticate the user as the Kerberos identity even though Kerberos authentication is not used authentication to the web server. The KCA certificate can be obtained from servers in the identity realm or from servers in an alternate realm. As of the KCA 1.1 plug-in, only one KCA certificate can be obtained for a given identity. Obtaining KCA certificates is only available on systems with a KCA plug-in installed.

🔊 jaltman@SECURE-ENDPOINTS.COM - New credentials 🛛 🔹 🔀					
Username	jaltman	•			
Realm	SECURE-ENDPOINTS.COM				
Password for jaltman@SECURE-ENDPOINTS.COM					
	<u>O</u> k <u>C</u> ancel	≥>			

After entering the correct password for the selected identity, press the Ok button to obtain the specified credentials.

Renew Credentials Command, Ctrl+R

This command is found on the Credential menu; it is also the second button (from the left) in the toolbar. Use this command to renew credentials either for all identities or the specified identity on the menu. Individual credentials can be renewed by selecting them in the Advanced View and using the right-mouse context menu Renew option. If the selected identity cannot be renewed without a password, a dialog will be displayed providing an opportunity to obtain new credentials.

Import Credentials Command, Ctrl+I

This command is found on the Credential menu; it is also the third button (from the left) in the toolbar. Use this command to import the Windows Logon Session Identity credentials into a MIT Kerberos credential cache. Importing tickets will not result in the destruction of existing tickets. If the imported identity is the default identity, the MIT credential cache will be used in preference to the Windows logon cache for applications written to the MIT Kerberos or GSS programming interfaces.

Note: This command is only available if your Windows Logon Session is authenticated using Kerberos.

Destroy Credentials Command, Del

This command is found on the Credential menu; it is also the fourth button (from the left) in the toolbar. Use this command to destroy credentials for all identities or a single identity.

Once credentials are destroyed, you must Obtain or Import new credentials before Kerberized applications can once again access network services.

Change Password Command

This command is found on the Credential menu; it is also the fifth button (from the left) in the toolbar. This dialog allows you to change your Kerberos password. This dialog will be automatically presented if an expired password is detected while obtaining new credentials.

Jaltman@SECURE-ENDPOINTS.COM - Changing password					? 🔀
Username	jaltman				•
Realm	SECURE-ENDPO	•			
Changing Kerb	Changing Kerberos v5 Password				
Current Passw	ord				
New Password	ł				
New Password	l again				
		<u>O</u> k		<u>C</u> ancel	<u>></u>

Note: This command will not change your local machine password unless you login to your computer using a Windows Domain account or otherwise authenticate using an MIT Kerberos identity.

How To Choose a Password...

Your passwords are the keys to many computers, from a bank machine to a multiuser mainframe to a server on a network. Your password helps to prove that you are who you say you are, and ensures your privacy.

Compromised passwords are the means by which most unauthorized (and unscrupulous) people gain access to a system. Someone logging on under your name has access not only to your computer files, but to most of the facilities of the computer system. Since tampering can have far-reaching and serious consequences, it's important to take to heart the following guidelines for choosing a password. **Do choose**:

Something easy for you to remember with at least six characters.

- * Something obscure. For instance, you might deliberately misspell a term or use an odd character in an otherwise familiar term, such as "phnybon" instead of "funnybone." Or use a combination of two unrelated words or a combination of letters and numbers.
- * A combination of letters and numbers, or a phrase like "many colors" and then use only the consonants "mnYc0l0rz."

* An acronym for your favorite saying, for example, "L!isn!" (Live! It's Saturday Night!)

Don't choose:

*

- * Your name in any form first, middle, last, maiden, spelled backwards, nickname or initials.
- * Your userid or your userid spelled backwards.
- * Part of your userid or name.
- * Any common name, such as Joe.
- * The name of a close relative, friend, or pet.
- * Your phone or office number, address, birthday, or anniversary.
- * Your license-plate number, your social-security number, or any all numeral password.
- * Names from popular culture, e.g., spock, sleepy.
- * Any word in a dictionary.
- * Passwords of fewer than four characters.

Mum's the Word

Never tell anyone your password -- not even your system administrator or account manager -- and don't write it down. Make sure you have chosen a password that you can remember. And, finally, change your password at regular intervals

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Before You Begin...

Remember that passwords are case-sensitive, and note whether your keyboard has Caps Lock on.

How To Use Change Password...

- **1.** Type your username in the first field of the dialogue box.
- 2. Type your *current* password in the Current Password field.
- **3.** Type your *new* password in the New Password field.
- 4. Retype your *new* password in the New Password (again) field to verify it
- 5. Press Enter or click OK.

The program checks the username and password you entered and notifies you if either is invalid. If you have entered the new password twice with consistent spellings, Network Identity Manager replaces your old password with the new, *if it is a strong password*. If Kerberos determines the

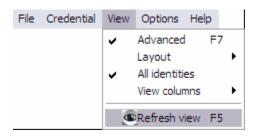
password is weak, a message notifies you, and you need to repeat steps 1 through 4 with a strong password, as described by the "How To Choose a Password" guidelines above.

How Change Password Works...

When you type into the password fields of the dialog box characters are replaced with bullets. The program accepts only printable characters for new passwords, i.e., characters between ASCII codes 0x20 and 0x7E.

When you have entered the new password twice consistently, the program attempts to change the password via a dialogue with the Kerberos administrative server. Some Kerberos sites, including MIT's Athena environment, check the password's strength before allowing the change to take place and notifies you if it determines that the password is weak.

View:



Advanced Command, F7

Use this command to toggle between the Basic and Advanced view modes for the Network Identity Manager Application Window.

Layout

File Credential	View Options Help	
	✓ Advanced F7	
	Layout 🕨	By identity
	All identities	By type
	View columns 🕨	By location
	Refresh view F5	 Custom
	Refrestivew F5	

Layout By Identity	-fault langest		
Layout By Identity is the d	eraun rayout.		
File Credential View Options Help			
🔁 🔁 • 🛅 🔁 • 🖪	E 🖭 🚺		
7 Identity Type Location	Service Name	Time Remaining	~
🗆 🕜 🚺 jaltman@ATHEN			
🖯 Kerberos v5 creden	tials		
	an@ATHENA.MIT.EDV		
<u>63</u>	krbtgt/ATHENA.MIT.EDV@ATHENA.MIT.EDV	20 hours 33 min	
8.3	afs/lastate.edu@IASTATE.EDV	20 hours 33 min	
63	afs/het.mit.edu@ATHENA.MIT.EDV	20 hours 33 min	
<u>83</u>	afs/raeburn.org@RAEBURN.ORG	9 hours 18 minutes	
23 23 23 23 23 23 23 23 23 23 23 23 23 2	afs/soap.mit.edu@ATHENA.MIT.EDV	20 hours 33 min	
6.3	af@ANDREW.CMV.EDV	20 hours 33 min	
63	afi@CS.CMU.EDU	20 hours 33 min	
<u>2.3</u>	a&@DEMENTIA.ORG	20 hours 33 min	
63	krbtgt/CS.CMV.EDV@ATHENA.MIT.EDV	20 hours 33 min	
6.3	krbtgt/DEMENTIA.ORG@ATHENA.MIT.EDV	20 hours 33 min	
5 .3	krbtgt/IASTATE.EDV@ATHENA.MIT.EDV	20 hours 33 min	
8.3	krbtgt/RAEBURN.ORG@ATHENA.MIT.EDU	20 hours 33 min	
🖯 KCA certificates			
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	CMV CA system identity 1	20 hours 33 min	
🗆 🕜 🚺 jaltman@SECURE-E	INDPOINTS.COM		
🖯 Kerberos v5 creden	tials		
API:jaltm	an@SECURE-ENDPOINTS.COM		
	krbtgt/SECURE-ENDPOINTS.COM@SECURE-ENDPOINTS.COM	14 minutes	
	afs/secure-endpoints.com@SECURE-ENDPOINTS.COM	14 minutes	
AFS credentials			
AFS Cach	Second and a second		
	afs@secure-endpoints.com	14 minutes	
	CURE-ENDPOINTS.COM		4000
🙆 🔝 jea@WIN.STANFORD.E	DV		
🛛 🔟 jea@stanford.edu			
👌 🔝 tequila@ANDREW.CMU	/.EDV		
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			li.

Layout By Type Layout By Type provides an alternative view of your credentials ordered by the type of credential instead of the Identity name.

Net	work Id	entity	Mana	ger							
File Cr	redential	View	Options	s Help							
<u>6</u>	ñ -		8	• 💌	۲						
7	Туре		Iđ	entity		Service Name		Time Rem	aining		~
Ξ	Kerbero	s v5 c	redent	ials							
			0 0	🚺 ja	ltman@ATHEN		(Default)				
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					afs/net.mit	.edu@ATHENA	MIT.EDU	20 hours 32 minutes			
6.3						-		9 hours 18 minutes			
					afs/soap.m	it.edu@ATHEN.	A.MIT.E	20 hours 32 minutes			
2.3					afs@ANDP	REW.CMU.EDU		20 hours 32 minutes			
					afs@CS.CM	IV.EDV		20 hours 32 minutes			
8.3					afs@DEME	ENTIA.ORG		20 hours 32 minutes			
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3.3					krbtgt/DE/	MENTIA.ORG@	ATHEN	20 hours 32 minutes			
					krbtgt/IAS	TATE.EDV@AT	HENA	20 hours 32 minutes			
6.3					krbtgt/RAI	EBURN.ORG@A	THENA	20 hours 32 minutes			
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Θ	AFS cred	entials									
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Ξ	KCA cert	ificates									
			0 0	🚺 ja	ltman@ATHEN	la.MIT.EDV	(Default))			
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											23
<											2

Layout By Location The By Location Layout provides an alternate view of your credentials based not upon the Identity name but instead on their storage location.

out instead on their storage is	Jourion.			
Network Identity Manager				
File Credential View Options Help				
🎦 🖏 · 🔊 💁 · 🗷	۵ (۲			
Location Identity	Туре	Service Name	Time Remaining	<u>^</u>
AFS Cache Manager				
🗆 ⊘ 🗖 jalt	man@SECURE-ENDPOINTS.	COM		
	AFS credentials			
	afs@se	cure-endpoints.com	13 minutes	
API-jaltman@ATHENA.MIT.ED				_
🗆 🛇 🚺 jalt	man@ATHENA.MIT.EDV	(Default)		
	Kerberos v5 credentials			
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5.3	afs/net	.mit.edu@ATHENA.MIT.EDV	20 hours 32 minutes	
	afs/rae	burn.org@RAEBURN.ORG	9 hours 18 minutes	
	afs/soa	p.mit.equ@ATHENA.MIT.E	20 hours 32 minutes	
	afs@A	NDREW.CMV.EDV	20 hours 32 minutes	
	afs@C	.CMV.EDV	20 hours 32 minutes	
	afs@D	EMENTIA.ORG	20 hours 32 minutes	
	krbtgt/	CS.CMV.EDV@ATHENA.M	20 hours 32 minutes	
	krbtgt/	DEMENTIA.ORG@ATHEN	20 hours 32 minutes	
	krbtgt/	IASTATE.EDV@ATHENA	20 hours 32 minutes	
	krbtgt/	RAEBURN.ORG@ATHENA	20 hours 32 minutes	
API:jaltman@SECURE-ENDPOI	NTS.COM			
🗆 🛇 🖪 jalt	man@SECURE-ENDPOINTS.	COM		
	🖯 Kerberos v5 credentials			
—	krbtgt/	SECURE-ENDPOINTS.COM	13 minutes	
—	afs/sec	ure-endpoints.com@SECURE	13 minutes	
Wih32 "My" system store				
🗆 🥝 🖪 jalt	man@ATHENA.MIT.EDV	(Default)		
	🖯 KCA certificates			and a second
	CMUC	A system identity 1	20 hours 32 minutes	5
21				Y
				2
				11.

Custom

Custom views can be obtained by clicking on the column headers to produce an ordering of your choice.

All identities

The All identities menu item toggles "view all identities" mode on and off. When on, all configured identities are displayed in the application window and on the notification icon Set default menu regardless of whether or not the identities have credentials or are pinned. When off, only the default identity, identities with credentials and pinned identities will be displayed.

View Columns			
File Credential	View Options	Help	
	 Advanced 	F7	
	Layout	•	
	All identities	s	
	View colum	ns 🕨 🕨	✓ Service Name
	B Dafaah sia		✓ Identity
	Refresh vie	ew F5	✓ Type
			Issued on
			Expires on
			Renewable time expires
			✓ Time Remaining
			 Renewable Time left
			Location
			Lifetime
			Renewable lifetime
			Session EncType
			Service EncType
			Addresses
			 Kerberos v5 Flags
			Kvno
			Cell
			Realm
			Method
			Client Principal
			Server Principal
			Realm
			Subject (email)
			Subject
			Issuer

By default only the Service Name, Identity, Credential Type, Time Remaining and Location are displayed. Using the View->View Columns menu you can select a variety of other credential properties to display in the NetIdMgr window. After displaying the columns, you can re-organize them by dragging the column headers into the desired location. The selected configuration will be preserved.

Refresh Command, F5

Use this command (in the View menu and the toolbar) to update the display of your current Credentials.

Why Use It ...

Although most end users will likely find this feature irrelevant, application developers and support staff may occasionally find it to be useful. For example, you may want an immediate status check of available credentials if you have just used command-line <u>kinit</u> or <u>kdestroy</u> and want to check that they have functioned successfully.

How It Works ...

While NetIdMgr automatically checks the status of your credentials every minute, the Update Display command forces an immediate status check.

Options:

-					
File	Credential	View	Options	Help	
			Gener	al	
			Appea	rance	
			Identi	ties	
			Notific	ations	
			Plug-ir	ns	
			Kerbe	ros v4	
			AFS		
			Kerber	ros v5 .	

General Options

The General options dialog, accessed via the Options menu, allows you to configure operational properties specific to the NetIdMgr application.

Network Identity Manager	Configuration
General options	
Network Identity Ma General Appearance Identities ialtman/root jaltman@AT jaltman@CC jaltman@FE jaltman@FE jaltman@FE jaltman@FE jaltman@FE jaltman@FE jaltman@IN jaltman@IN jaltman@PIL jaltman@SE jaltman@SE	Startup / Shutdown Obtain new credentials at startup (if none are present) Destroy all credentials on exit Other Run Network Identity Manager in system tray after window close Clicking on the notification icon Show Network Identity Manag Monitor network connectivity Log trace events to trace log at the following location: C:\DOCUME~1\jaltman\LOCALS~1\Temp\nidmdbg.ls Show log
	Ok Cancel Apply

The **Obtain new credentials at startup (if none are present)** checkbox will determine whether or not NetIdMgr will display the New Credentials dialog at startup when no valid credentials exist.

The **Destroy all credentials on exit** option can be used to empty all of the credential caches when the NetIdMgr is terminated.

The **Run NetIdMgr in taskbar notification area after window close** checkbox determines the behavior

of the window close button. When checked, NetIdMgr will close the window but will continue running and can be accessed from the taskbar notification area. When unchecked, NetIdMgr will behave as if File->Exit was selected from the menu.

Clicking on the notification icon can be configured to either *Show Network Identity Manager* or *Obtain New Credentials*. This option controls which menu item on the notification icon menu is the default action.

The **Monitor network connectivity** option determines whether or not NetIdMgr monitors the configuration of IP addresses on the machine. When IP addresses are added or removed and this feature is

activated, the NetIdMgr will probe the identity management servers (e.g., Kerberos Key Distribution Centers) to determine if they are reachable and if so will automatically obtain credentials.

The **Log trace events to trace log at the following location** option is used to activate a log file that can be used to help debug the behavior of NetIdMgr and its plug-ins. Press the **Show log** button to view the log file in Windows Notepad.

Appearance Options

The Appearance Options page can be used to select an alternate typeface to be used when displaying credentials in the NetIdMgr.

Network Identity Manager C	onfiguratio	ก	? 🔀
Appearance			
Network Identity Ma General Appearance Identities ijaltman@AT jjaltman@CC jjaltman@CC jjaltman@CC jjaltman@FEI jjaltman@FEI jjaltman@FRN jjaltman@GR jjaltman@IN jjaltman@IN jjaltman@IN jjaltman@SEI jjaltman@SEI jjaltman@SEI jjaltman@SEI jjaltman@SEI	Font for crede	Intials display Tempus Sans ITC Size 9 Sample text (hormal). 01234 Sample text (selected). C	
		Ok	Cancel Apply

Identities Options

Identity Options fall into two broad categories: global settings used as default values for Identities and Identity specific values that override the defaults.

Global Identity Settings

Network Identity Manager	Configuration	? 🔀
Global Identity setting	s	
Network Identity Ma General Appearance Identities jaltman/root jaltman@AT jaltman@CC jaltman@CC jaltman@FE jaltman@FE jaltman@FE jaltman@FR jaltman@FN jaltman@IN jaltman j	General Kerberos v5 Kerberos v4 AFS KCA ✓ Monitor credential expiration ✓ Automatically renew ✓ Always show in the credentials list (Pinned)	
	Ok Cancel	Apply

There are three general settings that can be used to set global defaults.

The **Monitor credential expiration** setting determines whether or not NetIdMgr should monitor the credential lifetimes and issue expiration notifications. This value is used as the default for all new identities.

The **Automatically renew** setting determines if *renewable* credentials are automatically renewed prior to expiration. This value is used as the default for all new identities.

The **Always show in the credentials list (Pinned)** setting determines whether new identities are always pinned within the credentials list. A pinned identity will always be displayed regardless of whether or not there are credentials associated with it.

Network Identity Manager	r Configuration	? 🗙
Global Identity setting	gs	
Network Identity Ma General Appearance Identities in expired@SE jaltman@AT jaltman@AT jaltman@CC jaltman@EE jaltman@FE jaltman@FE jaltman@FR jaltman@GR jaltman@JPL jaltman@JPL jaltman@SE isltman@SE	General Kerberos v5 Kerberos v4 AFS KCA Ticket lifetime 1 day 12 hours Ticket renewable lifetime 18 days Image: The service of	
	Ok Cancel	Apply

The global Kerberos v5 settings define default credential lifetimes and minimum and maximum values for use in constructing the slider controls used to set the lifetimes.

There are two expiration times associated with Kerberos tickets. The first specifies the length of the time period during which the tickets are valid for use. The second specifies the length of the renewable lifetime. Valid Kerberos tickets may have their valid use lifetime repeatedly extended up until the renewable lifetime expires. The settings on this page are used to configure default lifetime values for NetIdMgr to use when requesting Kerberos tickets from the Kerberos server (key distribution center). The Kerberos server may issue tickets with shorter lifetimes than were requested.

The **Renewable**, **Forwardable**, and **Addressless** options determine whether or not new identities default to obtaining Kerberos v5 tickets with these options.

When **Forwardable** tickets are received from the Kerberos Server, these tickets can be forwarded to a remote host when you connect via telnet, ssh, ftp, rlogin, or similar applications. When tickets are forwarded, there is no need to obtain Kerberos tickets again to access Kerberized services on the remote host. **Forwardable** tickets are often required when authenticating to a remote host using ssh or ftp when the remote host requires the ability to authenticate to a remote file system such as AFS.

When **Renewable** tickets are received from the Kerberos Server, the ticket lifetimes may be renewed without prompting the user for her password. This allows Kerberos tickets to be issued with short lifetimes allowing compromised accounts to be disabled on short notice without requiring the user to enter a password every few hours. When combined with **Automatic Ticket Renewal**, NetIdMgr can maintain valid tickets for a week, a month, or longer by automatically renewing tickets prior to their expiration. The ability to renew tickets without a password is limited by the ticket's renewable lifetime as issued by the Kerberos Server.

When **Addressless** is selected, the tickets do not contain IP address information. This enables the tickets to be used from behind Network Address Translators which are frequently found in Cable and DSL Modems.

The minimum and maximum ranges are used by the ticket initialization dialog box when constructing the Lifetime and Renewable Lifetime sliders. These sliders can be used to modify the requested ticket lifetimes when Kerberos tickets are initialized.

Network Identity Manager	Configuration		? 🔀
Global Identity setting	s		
Network Identity Ma General Appearance Identities comparance jaltman/root jaltman@CC jaltman@CC jaltman@FE jaltman@FE jaltman@FE jaltman@FR jaltman@IN jaltman@JPl jaltman@PIL jaltman@SE	General Kerberos v5 Kerberos v4 Af Obtain Kerberos v4 credentials Note that, if enabled, Kerberos v4 credential acquisition and during of However, currently Kerberos v4 credential default identity.	redential renewals	
	Ok	Cancel	Apply

When the **Obtain Kerberos v4 credentials** button is checked, NetIdMgr will attempt to retrieve Kerberos v4 credentials when ticket initialization, renewal, or importation is performed. Kerberos realms are increasingly configured to support only Kerberos v5 (e.g., Windows Active Directory Domains.) If the realms you use do not support Kerberos v4 it is suggested that this button be unchecked.

Be aware that only the default identity can obtain Kerberos v4 credentials. This limitation is due to the inability of Kerberos v4 applications on Microsoft Windows to specify a credentials cache.

Network Identity Manager	Configuration	? 🗙
Global Identity setting	s	
Network Identity Ma General Appearance Identities jaltman/root jaltman@CC jaltman@CC jaltman@CC jaltman@FE jaltman@FE jaltman@FE jaltman@FR jaltman@FR jaltman@FI jaltman@IPI jaltman@SE jaltman@SE jaltman@SE	General Kerberos v5 Kerberos v4 AFS KCA	
	Ok Cancel A	apply

When the **Obtain AFS tokens** button is checked, NetIdMgr will attempt to retrieve AFS tokens when ticket initialization, renewal, or importation is performed. If you do not frequently access AFS cells, it is suggested that this button be unchecked.

Network Identity Manager	Configuration	? 🗙
Global Identity setting	s	
Network Identity Manage General Appearance Identities Notifications Plugins Credential Cach Kerberos v4 AFS	General Kerberos v5 Kerberos v4 AFS KCA	
< <u> </u>	Ok Cancel	Apply

When the **Obtain a KCA certificate** button is checked, NetIdMgr will attempt to obtain a KCA certificate when ticket initialization, renewal, or importation is performed. Most Kerberos realms do not support KCA certificates, it is suggested that this button be unchecked.

Identity Specific Options

Each Identity knows to the Network Identity Manager is provided its own set of tabbed pages that can be used to override the default values specified on the Global Identity Settings pages. There are two distinctions.

Network Identity Manager Configuration			
Options for jaltman@\$	SECURE-ENDPOINTS.COM		
jaltman@IIV jaltman@JPL jaltman@PL jaltman@SE jaltman@K jaltman@K jaltman@WI jea@stanfor jea@WIN.ST needchange tequila@ANI Notifications Plugins Plugins Credential C Kerberos v4 AFS	General Kerberos v5 Kerberos v4 AFS KCA ✓ Monitor credential expiration ✓ Automatically renew ✓ Always show in the credentials list (Pinned) Remove identity		
	Ok Cancel Apply		

The General page contains a **Remove Identity** button that can be used to delete this Identity from the Network Identity Manager.

Network Identity Manager	Configuration	? 🗙
Options for jaltman@S	SECURE-ENDPOINTS.COM	
jaltman@IIN jaltman@IN jaltman@PIL jaltman@FIL jaltman@FIL jaltman@TR jaltman@WI jea@stanfor jea@WIN.ST needchange tequila@ANI Notifications Plugins Kerberos v5 Realms Credential C Kerberos v4 AFS	General Kerberos v5 Kerberos v4 AFS KCA Credential lifetime 1 day Image: Renewable for 7 days Image: Renewable for <td< th=""><th>сом</th></td<>	сом
	Ok Cancel	Apply

The Kerberos v5 page displays the name of the credential cache currently associated with the Identity.

Network Identity Manager	Configuration	? 🗙
Options for jaltman@	ATHENA.MIT.EDU	
Network Identity Ma General Appearance Identities Identities ijaltman/root jaltman@CC jaltman@CC jaltman@CC jaltman@FEI jaltman@FEI jaltman@FEI jaltman@GR jaltman@IN jaltman@JPI jaltman@SEI jaltman@SEI	General Kerberos v5 Kerberos v4 AFS KCA	
	Ok Cancel	Apply

The Kerberos v4 page is optional and may not appear on all systems. Only one identity can obtain Kerberos v4 credentials at a time.

Network Identity Manager	Configuration		? 🔀
Options for jaltman@	ATHENA.MIT.EDU	1	
Network Identity Ma General General Appearance Identities ⇒ expired@SE jaltman@AT jaltman@AT jaltman@CC jaltman@CC jaltman@FE jaltman@FE jaltman@FR jaltman@GR jaltman@IN jaltman@JPL jaltman@JPL jaltman@SE	General Kerberos v5 Ke ✓ Obtain AFS credentia Credential for Cell athena. Realm (Automa Method (Automa Method (Automa Cell Vandrew.cmu.edu Vathena.mit.edu Vathena.mit.edu Vathena.mit.edu Vathena.mit.edu Vathena.mit.edu Vathena.mit.edu Vathena.mit.edu Vathena.mit.edu Vathena.mit.edu	ls mit.edu 💽 tic) 💽	Add/Update Delete Method (Automa, (Automa, (Automa, (Automa, (Automa,
	0	Ok Cancel	Apply

The AFS page is optional and may not appear on all systems. A single identity may be used to obtain tokens for multiple AFS cells. The Add/Update and Delete buttons are used to manage the list of AFS cells. If the Kerberos realm associated with the AFS cell cannot be automatically determined, it may be entered manually. The method of AFS token acquisition is one of: "Automatic", "Kerberos v5", "Kerberos v5 to v4" or "Kerberos v4". Kerberos v5 based tokens should be used when possible. If not, the next best choice is the Kerberos v5 to v4 translation service. As a last resort, a Kerberos v4 ticket request can be used directly. In most cases, using "Automatic" will just work.

Network Identity Manager	Configuration	? 🗙
Options for jaltman@	ATHENA.MIT.EDU	
Network Identity Ma General Appearance Identities expired@SE jaltman@AT jaltman@CC jaltman@CC jaltman@FE jaltman@FE jaltman@FR jaltman@GR jaltman@IN jaltman@IN jaltman@IN jaltman@IN	General Kerberos v5 Kerberos v4 AFS KCA ✓ Obtain a KCA certificate for this identity KCA Hosts	
	Ok Cancel A	Apply

A Kerberized Certificate Authority certificate is an X.509 certificate that can be used with web browsers to authenticate the user as the Kerberos identity even though Kerberos authentication is not used authentication to the web server. The KCA certificate can be obtained from servers in the identity realm or from servers in an alternate realm. As of the KCA 1.1 plug-in, only one KCA certificate can be obtained for a given identity. Obtaining KCA certificates is only available on systems with a KCA plug-in installed.

Notifications Options

Network Identity Manage	er Configuration		? 🔀
Notifications			
Network Identity Manaç General Appearance Identities	I Renew automatically at I Renew at half life	15 minutes intervals when possible	
Notifications Plugins Certeros v5 Realms	 ✓ Initial warning at ✓ Final warning at 	10 minutes	
Kerberos v4			
< <u> </u>	Ok	Cancel	Apply

The **Renew automatically at** check box determines whether or not renewable tickets will be renewed by NetIdMgr when they reach the specified time remaining.

The **Initial warning at** check box determines whether or not a warning will be issued when the specified time remaining is reached.

The **Final warning at** check box determines whether or not a warning will be issued when the specified time remaining is reached.

Notifications are performed in two ways. First, icons are displayed next to the affected credentials in the flags column of the display. Second, a balloon tip is displayed off of the NetIdMgr taskbar notification area icon.

Plug-ins and Modules

Network Identity Manager Configuration			
Plugins and Modules			
Network Identity Manaç General Appearance Identities Identities	Convides	AFS Credentials Provider	
Notifications Ryb4Cred	Module	OpenAFS	
Kerberos v5	Version	1.5.1700.0	
Credential Cach	Vendor	(C) 2005-2007 Secure Endpoints In	
AFS	Depends on	Krb5Cred	
	Status	Running	
		Enable Disable	
< >	Unregister	plugin	
	Ok	Cancel Apply	

The Plug-ins and Modules page provides status information on the currently loaded plug-ins and modules include a description of their purpose; whether or not it was loaded properly; which other modules are required; and what organization developed it.

Kerberos v5 Configuration

Important Note for Windows Vista Users. The following Kerberos v5 Configuration features are incompatible with the Windows Vista User Account Control feature:

- Changing the Default Realm
- The entire Kerberos Realm Configuration page

Do not use these features from a Windows account that is a member of the local machine's Administrators group.

Network Identity Manager Configuration			
Kerberos v5 Configur	ation		
Network Identity Manag General Appearance Identities Notifications Plugins Kerberos v5 Credential Cach Kerberos v4 AFS	Default Realm — Configuration File – Location	SECURE-ENDPOINTS.COM Include all configured realms in New Credentials realm list C:\WINDOWS\krb5.ini	
	Microsoft Windows	® Options	
	Hostname	GALATEA	
	Domain	WINDOWS	
	Import	Never	
		Ok Cancel Apply	

The Kerberos v5 Configuration tab allows you to alter the behavior of the Kerberos v5 identity provider.

In the **Default Realm** field, select a Kerberos realm from the dropdown list.

The **Include all configured realms in New Credentials realm list** determines whether all of the realms declared in the Kerberos v5 Configuration file are included in the realms list of the **Obtain New Credentials** dialog. If disabled, only the realms previously used to obtain credentials are displayed.

The **Configuration File** field displays the path to the Kerberos v5 configuration file, krb5.ini.

The field labeled **Host Name** displays the name of your local machine. The **Domain Name** field displays the domain to which your local machine currently belongs.

The **Import Tickets** listbox allows you to configure how NetIdMgr interacts with the Microsoft Kerberos Authentication Provider. NetIdMgr will automatically import Kerberos Tickets from the Microsoft LSA at startup depending upon the selected option and whether or not the Kerberos Authentication Provider was used for Windows Logon authorization.

- Never means do not import tickets from the MSLSA;
- Always means do import tickets from the MSLSA; and
- **Only when the Principal matches** means import tickets from the MSLSA only if the MSLSA Kerberos principal belongs to the Default Realm.

When the Windows Logon identity is imported and is configured as the default identity, the MIT credential cache will be used in preference to the MSLSA credential cache.

Network Identity Manager Configuration			
Kerberos Realm Con	figuration		
Network Identity Manag General Appearance Identities Notifications Plugins Kerberos v5 Realms Credential Cach Kerberos v4 AFS	New realm> ANDREW.CMU.ED ANL.GOV ATHENA.MIT.EDU CC.COLUMBIA.ED CS.CMU.EDU CSAIL.MIT.EDU DEMENTIA.ORG DUMMY_REALM GRAND.CENTRA IASTATE.EDU INT-AFS.JPL.NA IT.WIN.STANFO	Kerberos Servers for ATHEN/ Server Admin New server> kerberos-1.mit No kerberos-2.mit No kerberos-3.mit No kerberos.mit.e Yes Domains that map to ATHEN/ Domain New domain mapping	No No No Yes
		Ok Cancel	Apply

The Kerberos Realm Configuration dialog can be used to manage the contents of the [Realms] and [Domain_Realm] sections of the Kerberos v5 configuration file.

Network Identity Manager	Configuration	? 🔀
Kerberos v5 Credentia	al Caches	
 Network Identity Manage General Appearance Identities Notifications Plugins Kerberos v5 Realms Credential Cach Kerberos v4 AFS 	✓ Include Windows LSA cache (MSLSA:) File-based Credential Caches File based Credential Caches c:\document and settings\jaltman\krb5.cc	
	Add Remove Selected	Browse
	Ok Cancel	Apply

The **Kerberos v5 Credentials Caches** page determines the contents of which credential caches types are displayed within the Network Identity Manager. The **Include all API: credential caches** check box determines whether or not CCAPI caches are included. CCAPI caches are the most frequently used with MIT Kerberos for Windows. The **Include Windows LSA cache (MSLSA:)** check box determines whether or not the Windows Logon Session Identity is displayed within NetIdMgr.

The Network Identity Manager can also display the contents of FILE: credential caches. Each FILE: credential cache must be manually added to the list.

Kerberos v4 Configuration

Network Identity Manage	er Configuration	n	? 🗙
Kerberos v4 Configu	ration		
jaltman@GR jaltman@IN jaltman@JPl jaltman@JPl jaltman@PIL jaltman@FR jaltman@KR jaltman@WI jaltman@WI jaltman@WI jaltman@WI jaltman@WI jaltman@WI jaltman@VI jaltman@VI jaltman@IN jaltman@F jaltman jaltman@F jaltman jalt	Credential cache Config file path Realm file path	API:krb4cc C:\WINDOWS\krb.con C:\WINDOWS\krbrealm.con	
		Ok Cancel A	Apply

Here, you can specify the name of the in-memory cache used to store the Kerberos v4 tickets. The format of the name is "API:" followed by the cache name. Disk caches are not supported by Kerberos for Windows.

The paths to the Kerberos v4 configuration files: krb.con and krbrealm.con may be viewed from this dialog. The default is to store the configuration files in the Windows directory.

AFS Configuration				
Network Identity Manager	Configuration	I		? 🗙
AFS Configuration				
 Network Identity Manage General Appearance Identities Notifications Plugins Kerberos v5 Realms Credential Cach Kerberos v4 AFS 	AFS Service Service status Version Company Startup options Startup options to Windows	0penAFS Project	itart service	nen you log in
<		E	OpenAFS Contro	Panel
		Ok	Cancel	Apply

The AFS Configuration page is optional and may not appear on all systems. The AFS page can be used to stop and start the AFS Client Service, view the AFS version number and distribution source, and access the AFS Control Panel.

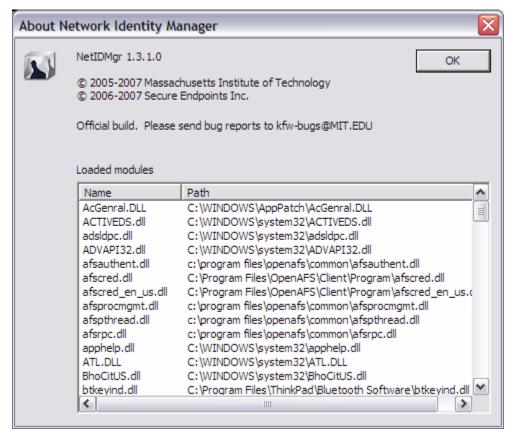
The **Prevent AFSCreds.exe from starting automatically everytime you log in to Windows** feature will disable the use of the AFS Notification Icon application known as afscreds.exe. This feature is required until such time as the NetIdMgr replaces afscreds.exe in the OpenAFS distribution.

Help:

File	Credential	View	Options	Help	
				0	Help Contents
					Index Kerberized Certificates AFS
					About Network Identity Manager

About Network Identity Manager

When you access this window from the Help menu, you see a Module list, three radio buttons, and a Properties button. Modules are executables and dll files that NetIdMgr may require.



The About dialog provides access to the Network Identity Manager version number; the applicable copyright statement; the e-mail address to which bug reports should be sent; and a list of all of the modules loaded by the application.

Windows Taskbar Notification Area

While NetIdMgr is running the icon will be displayed in the taskbar notification area. Clicking on the icon with the first mouse button will open or close the Network Identity Manager application window or open the Obtain New Credentials dialog based upon the current configuration. The behavior can be adjusted from the Options->General page. Clicking with the second mouse button will display a menu of commands.

- \mathbf{k} = the default identity's credentials are valid
- the default identity's credentials are about to expire
- the default identity's credentials are expired

Hovering the mouse over the NetIdMgr notification icon will display the name of the default identity.

Show Network Identity Manager window		
Cotain new credentials	Ctrl+N	
Renew		
Multimort Credentials	Ctrl+I	
Destroy		
Set default		
💽 Change password		
(Help Contents		
About Network Identity Manager		
Exit	Ctrl+X	

Windows Taskbar Notification Icon Menu

The Network Identity Manager notification icon menu provides a shortcut to the most useful NetIdMgr commands. The default action (left button click) is displayed in Bold text. It can be configured from the Network Identity Manager General Options page. The choices are "Show/Hide Network Identity Manager window" or "Obtain new credentials …".

Show Network Identity Manager window / Hide Network Identity Manager window

The Show Network Identity Manager window item will restore the Network Identity Manager application window. If the window is already open this option will appear as "Hide Network Identity Manager window" and will close the application window.

Obtain new credentials ...

The Obtain new credentials item will display the "Obtain new credentials" dialog. See the **Network Identity Manager Commands: Credentials** section of this document for more information.

Renew

Show Network Identity Manager	window	
Contain new credentials	Ctrl+N	
Renew	•	Renew all identities
Import Credentials Destroy	Ctrl+I	Renew jaltman@ATHENA.MIT.EDU Renew jaltman@CC.COLUMBIA.EDU
Set default	•	Renew jaltman@FNAL.GOV
🛒 Change password		Renew jaltman@WINDOWS.SECURE-ENDPOINTS.COM
Help Contents		
About Network Identity Manager		
Exit	Ctrl+X	

The Renew item displays a sub-menu that provides a choice of renewing the credentials for all identities or a specific identity. See the **Network Identity Manager Commands: Credentials** section of this document for more information.

Import Credentials

The Import Credentials item will cause NetIdMgr to import credentials from available external sources such as the Microsoft LSA credential cache used to store Windows Domain credentials. See the **Network Identity Manager Commands: Credentials** section of this document for more information.

Destroy

Show Network Identity Manager	window	7
Contain new credentials Renew	Ctrl+N	-
Multiple Import Credentials	Ctrl+I	
Destroy	•	Destroy all identities
Set default	•	Destroy jaltman@ATHENA.MIT.EDU
€ Change password		Destroy jaltman@CC.COLUMBIA.EDU Destroy jaltman@FNAL.GOV
0 Help Contents		Destroy jaltman@WINDOWS.SECURE-ENDPOINTS.COM
About Network Identity Manager		
Exit	Ctrl+X	

The Destroy item displays a sub-menu that provides a choice of destroying the credentials for all identities or a specific identity. See the **Network Identity Manager Commands: Credentials** section of this document for more information.

Set Default

Show Network Identity Manage	r window	
Obtain new credentials	Ctrl+N	-
Renew	•	
Multiple Import Credentials	Ctrl+I	
Destroy	•	_
Set default	•	✓ jaltman@ATHENA.MIT.EDU
😿 Change password		jaltman@CC.COLUMBIA.EDU
		jaltman@FNAL.GOV
Help Contents About Network Identity Manager		jaltman@JPL.NASA.GOV
		jaltman@SECURE-ENDPOINTS.COM
Exit	Ctrl+X	jaltman@WINDOWS.SECURE-ENDPOINTS.COM
		jea@stanford.edu

The Set default menu option displays a list of network identities from which one can be selected as the **default identity**. The list contents are determined based upon the setting of the **View->All identities** menu option on the NetIdMgr application window menu. When **View->All identities** is unchecked, the list will contain the current default identity, all identities with credentials, and all identities that are pinned.

The background color of the identity indicates whether or not there are valid credentials.

Green – valid credentials Yellow – valid credentials nearing expiration Orange – valid credentials even closer to expiration Red – expired credentials White – no credentials Grey – selection cursor

Change Password

The Change Password item displays the Change Password dialog. See the **Network Identity Manager Commands: Credentials** section of this document for more information.

Help Contents

Displays the Network Identity Manager Help File.

About Network Identity Manager

Displays the Network Identity Manager About dialog.

<u>Exit</u>

You can use this command to exit the Network Identity Manager.

Important Note ...

Exiting NetIdMgr will **not** destroy your current Kerberos tickets unless the **Destroy all credentials on exit** option is configured. See the Options->General page.

Toolbar



The Network Identity Manager Toolbar contains buttons which act as shortcuts to the most frequently used Actions found on the Menubar. From left to right:

- 1. Get Tickets

- Get Tickets
 Renew Tickets
 Import Tickets
 Destroy Tickets
 Change Password
 Update Display

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Kerberos Export Restrictions and Source Code Access

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Reporting Bugs and Requesting Assistance

If you find bugs, please mail them to kfw-bugs@MIT.EDU.

kerberos@MIT.EDU is a mailing list set up for discussing Kerberos issues. It is gatewayed to the Usenet newsgroup 'comp.protocols.kerberos'. If you prefer to read it via mail, send a request to kerberos-request@MIT.EDU to get added or subscribe via the web page:

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Obtaining Kerberos for Windows Source Code and SDK

To retrieve the source code distribution or software development kit for Kerberos for Windows follow the link to **Download: Souces and binaries from MIT via <u>authorization form</u> from the web page <u>http://web.mit.edu/kerberos/</u>.**

Important notice regarding Kerberos v4 support

In the past few years, several developments have shown the inadequacy of the security of version 4 of the Kerberos protocol. These developments have led the MIT Kerberos Team to begin the process of ending support for version 4 of the Kerberos protocol. The plan involves the eventual removal of Kerberos v4 support from the MIT implementation of Kerberos.

The Data Encryption Standard (DES) has reached the end of its useful life. DES is the only encryption algorithm supported by Kerberos v4, and the increasingly obvious inadequacy of DES motivates the retirement of the Kerberos v4 protocol. The National Institute of Standards and Technology (NIST), which had previously certified DES as a US government encryption standard, has officially announced[1] the withdrawal of the Federal Information Processing Standards (FIPS) for DES.

NIST's action reflects the long-held opinion of the cryptographic community that DES has too small a key space to be secure. Breaking DES encryption by an exhaustive search of its key space is within the means of some individuals, many companies, and all major governments. Consequently, DES cannot be considered secure for any long-term keys, particularly the ticket-granting key that is central to Kerberos.

Serious protocol flaws[2] have been found in Kerberos v4. These flaws permit attacks which require far less effort than an exhaustive search of the DES key space. These flaws make Kerberos v4 cross-realm authentication an unacceptable security risk and raise serious questions about the security of the entire Kerberos v4 protocol.

The known insecurity of DES, combined with the recently discovered protocol flaws, make it extremely inadvisable to rely on the security of version 4 of the Kerberos protocol. These factors motivate the MIT Kerberos Team to remove support for Kerberos version 4 from the MIT implementation of Kerberos.

The process of ending Kerberos v4 support began with release 1.3 of MIT Kerberos v5. In release 1.3, the default run-time configuration of the KDC disables support for version 4 of the Kerberos protocol. Release 1.4 of MIT Kerberos continues to include Kerberos v4 support (also disabled in the KDC with the default run-time configuration), but we intend to completely remove Kerberos v4 support from some future release of MIT Kerberos, possibly as early as the 1.5 release of MIT Kerberos.

The MIT Kerberos Team has ended active development of Kerberos v4, except for the eventual removal of all Kerberos v4 functionality. We will continue to provide critical security fixes for Kerberos v4, but routine bug fixes and feature enhancements are at an end. We recommend that any sites which have not already done so begin a migration to Kerberos v5. Kerberos v5 provides significant advantages over Kerberos v4, including support for strong encryption, extensibility, improved cross-vendor interoperability, and ongoing development and enhancement.

If you have questions or issues regarding migration to Kerberos v5, we recommend discussing them on the kerberos@mit.edu mailing list.

References

[1] National Institute of Standards and Technology. Announcing Approval of the Withdrawal of Federal Information Processing Standard (FIPS) 43-3, Data Encryption Standard (DES); FIPS 74, Guidelines for Implementing and Using the NBS Data Encryption Standard; and FIPS 81, DES Modes of Operation. Federal Register 05-9945, 70 FR 28907-28908, 19 May 2005. DOCID:fr19my05-45

[2] Tom Yu, Sam Hartman, and Ken Raeburn. The Perils of Unauthenticated Encryption: Kerberos Version 4. In Proceedings of the Network and Distributed Systems Security Symposium. The Internet Society, February 2004. http://web.mit.edu/tlyu/papers/krb4peril-ndss04.pdf