
From: Tim Moore
Sent: Monday, March 12, 2001 6:17 AM
To: Gene Chellis; Dan Neault
Subject: RE: protocol analysis

Sorry, taken some time to get through the email from last week.
I have been doing Win2k only, though the list has some Whistler stuff in it.
Win2k is mostly a superset of NT4 but I don't know if there is anything missing.
You are right I have only been looking at the source checked into Windows. If you want to include Media Player, etc. We need to get other groups involved as well. Mike Beckerman is the right person for media player. Instant messenger was not in win2k so that isn't a problem.
There is a lot of missing information in the rpc list, I have filled in as much as I can - we need to send it to some other people to get their input - I suggest Paul Leach (Security), Mike Beckerman (Digital media), Joe Belfiore (Shell), Bharat Shah (Management). Did you work out what you are going to say?



ms protocols2.xls
(57 KB)

Tim

-----Original Message-----

From: Gene Chellis
Sent: Monday, March 05, 2001 2:52 PM
To: Dan Neault; Tim Moore
Subject: RE: protocol analysis
Importance: High

I've been thinking in terms of Win2k. I don't know whether it is a strict superset of NT4.

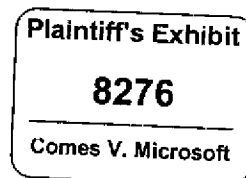
Tim can say whether he's been looking at NT4 also, though I got an OOF from him earlier saying he's in a course today.

Gene Chellis
digital pager: [206] 541-5854

-----Original Message-----

From: Dan Neault
Sent: Monday, March 05, 2001 1:58 PM
To: Gene Chellis
Subject: protocol analysis
Importance: High

are you looking at nt4 or win2k or both?



Protocol	Spec Ref	Category	Purpose	Ships In
802.1X	ieee	Standards	media	all
modem(AT)	itu	Standards	modem commands	all
ip/1394	ietf rfc2734	Standards	ip over 1394	millenium, whistler
Winsock Direct	not published	Server/Server	System Area networks	Win2k DTC, Whistler
mdia	MS published	Local	remote ndis	millenium, whistler
802.1X	ieee	Standards	security	whistler
aim(us3,1/4,0/iana)	ietf/ietf	Standards	aim	win2k
pppoe	not published	Standards	aim	win2k
NLBS protocol	not published	Server/Server	load balancing keep alive	NT4, win2k, whistler
topology (comp, arp)	ietf	Standards	transport	all
top/pv8	ietf rfc791,2,3,826	Standards	transport	whistler, win2k addon
TP4	ISO	Standards	transport	NT4/win2k
appletalk (adap, sfp, pap, etp, arap)	apple	Standards	transport	win2k
lpx/lpx2/esp	novell	Standards	transport	all
IRDA (Irnylp, Irmp, Ircommt, Irmap, Irftp, Irbae)	irda forum	Standards	irda	all
bluetooth	bluetooth sig	Standards	wireless PAN	whistler
nop	not published	Standards	network redirector	all
d/c	dec/ibm	Standards	transport	NT4/win2k
nb/lpx	ibm	Standards	transport	NT4/win2k
netbios	ms/ibm	Legacy	transport	all
netbi	ietf rfc1058	Standards	transport	all
dhcp	ietf rfc2131	Standards	ip address	all
dhcp relay	ietf rfc2131	Standards	ip address	server
pppoe	ietf rfc2516	Standards	dsl ethernet	whistler
usb modem	usb forum	Standards		win2k
usb telephony	usb forum	Standards		win2k
gpp	ietf rfc1661	Standards	dialup	all
rschapi/h2	ietf rfc2433	Standards	dialup	all
scp	ietf rfc1962	Standards	dialup	all
stcp	ietf	Standards	dialup	all
esp	ietf rfc2284	Standards	dialup	win2k
esp/psk	ietf rfc2718	Standards	dialup	win2k
nt/cip	ietf	Standards	dialup	all
lp/cip	ietf	Standards	dialup	all
lscip	ietf	Standards	dialup	all
multilink	ietf rfc1990	Standards	dialup	all
ppp	ietf	Standards	dialup	all
slppp	ietf	Standards	dialup	all
sltcp	ietf	Standards	dialup	all
cbtcp	ietf	Standards	dialup	all
scarp	ietf	Standards	routing	all
lscarp	ietf	Standards	routing	all
slpp/h2	ietf rfc1058,2453	Standards	routing	nt4/win2k
slp	ietf	Standards	dialup	all
rschp/h2	ietf	Standards	routing	msc(m4), win2k server
slmm/2SM	ietf	Standards	routing	whistler
slmp/h1,2,3	ietf	Standards	multicast	all (v3 whistler)
lsec	ietf rfc2401, 2,3,4,5,6,7,8,9,10,11,12	Standards	security	win2k
lcp	ietf rfc2837	Standards	tunneling	all
l2tp	ietf rfc2661	Standards	tunneling	win2k
rsvp	ietf rfc2205	Standards	qos	win98, win2k, millenium
lsm	ietf draft-ietf-issl-ss202-4bm	Standards	qos	win2k
diffserv	ietf rfc2474	Standards	qos	win2k
dns	ietf rfc1035	Standards	name resolution	
wns	not published	legacy	discovery/replication	server only
cluster network protocol	not published	Server/Server	between cluster nodes	NT4 enterprise, win2k AS/DTC, whistler
cluster membership protocol	not published	Server/Server	membership consensus algorithm	NT4 enterprise, win2k AS/DTC, whistler

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POP3	ietf	rfc1939	Standards	Outlook express	
imap4	ietf	rfc2060	Standards	Outlook express	
smtp	ietf	rfc977	Standards	Outlook express	
http/ov	ietf	rfc2816	Standards	Outlook client (10), hotmail	Win2k, whistler, all
smtp	ietf	rfc821	Standards	Outlook express	server, win2k, millennium
mime	ietf	rfc2046, 5, 7, 8, 9	Standards	Outlook express	
F120 (H460, q831, h245, ras)	Iu		Standards	netmeeting	
B323+	Iu		Standards	netmeeting	
rtsp	ietf	rfc1889	Standards	multimedia transport	
rtsp	ietf	draft-ietf-avt-rtsp-new	Standards	multimedia transport	
scp	ietf	rfc2327	Standards	session description, ip multicast	
h324	Iu		Standards	video/audio over modem	millennium
H23 annex b	Iu		Standards	security	millennium, win2k
H23	Iu		Standards	goc - security	
H24	Iu		Standards	goc - routing	
H26	Iu		Standards	whiteboarding	
H28	Iu		Standards	app sharing	
H27	Iu		Standards	file xfer	
gopher	ietf		Standards		
directplay	not published			gaming control, content	
psst	not published			firewall traversal	
messenger protocol, nyp	ietf		Standards	instant messenger	millennium
clw	ietf	rfc2847	Standards	ie, office web folders	ie5, millennium, win2k
http/m auth	ietf	rfc2138	Standards	dialing auth	server only
radius	ietf	rfc1905	Standards	management	
seamless	OpenGroup	(http://www.opengroup.org/pubs/catalog/c706.htm)	Standards	Transport for remote operations	all NT versions
rpc					
win				windows management	
Kerberos	ietf	rfc1510	Standards+	authentication, authorization, extended by MS with key types (pub), authn data (patent), hot flag	win2k, whistler
NTLMAV1A2	not published			authentication	win2k, ME, whistler (at 3.1-4.0, win98)
SPNEGO	ietf		Standards	auth negotiation	win2k, DSCP
SASL-GSSAPI	ietf	rfc2025	Standards	LDAP auth using kerberos	win2k, whistler
LSARPC	not published			LSA to LSA comms, also EFS RPC interface	Win2k, whistler
Nellogh RPC	not published			nellogh to netlogn comms, rpc interface	NT4, win2k, whistler
SAM RPC	not published			account mgmt, rpc if	NT4, win2k, whistler
SSL(2.3), TLS	ietf	rfc2246	Standards	authentication and encryption	win2k, ME, whistler
Pstore RPC	not published			key mgmt, rpc if	win2k, whistler
oart store rpc	not published			oart request, mgmt	win2k
hpasswd	ietf		Standards	change password protocol	win2k
plint	ietf		Standards	pk logon extension for kerberos	win2k
LDAP 1v3	ietf	rfc1777	Standards	remote directory access	win2k, whistler, DSCP
DRS RPC	not published			directory access and replication rpc	win2k, whistler, DSCP
DS MBR	proprietary blob on public transport			Derep over SMIIME, SMTP	
mapl RPC	not published			address book operations	outlook
XDS rpc	not published			directory access	win2k
telback rpc	not published			remote backup	win2k
DNS tsig	ietf			secure dns update	
dns mgmt rpc	not published			dns management	
UPnP	MS published		Client/Client/Device		millennium, whistler
SNTP	ietf	rfc2030	Standards	time sync (ietf signature as implementation dependent)	win2k, whistler, DSCP
phonebook download	MS published		Client/Server	based on http/ftp	millennium, win2k
SMB	in CIFS spec (file level complete, security not complete)		Client/Server	runs over netbios, tcp, ipx, nbif	all NT versions
webdav	ietf	rfc2518	Standards		may ship in whistler
ifs redir	ietf		Standards	Unix file redir	SFU
irda	MS published		Local	irda	win2k, millennium
lpd/tp	ietf	rfc1179	Standards	printing	all NT versions
ftp	ietf	rfc959	Standards	file xfer	all
telnet	ietf	rfc854	Standards	terminal	all
ssh, rcp, nmap, rlogh, rcmd	berkeley unlc		Standards	unix utilities	all
ping	ietf	rfc792	Standards	diagnostics	all
traceroute	V.Jacobson ICMP		Standards	diagnostics	all
ics discovery	not published		Client/Client?	ics	millennium

echo, discard, quote, character, daytime	ietf	Standards	top simple	all NT versions
ftp	ietf	Standards	file xfer	win2k, Caamon In server, win2k, whistler
mdnsop	ietf	Standards	multicast	win2k
mtrace, mtrah	ietf	Standards	multicast	win2k/whistler
PXE	MS/Intel Spec, Published Intel		Extends DHCP for booting	Boot ROMS, Boot Floppy (LANWORKS)
OS Chooser	published		RI client wizard and server	Win2k, whistler
TAPI ILS	not published			win2k
ras routes	not published		route dialup	whistler
ras schema	not published	LDAP schema	routing	win2k
radius schema	not published	LDAP schema	authentication	win2k
lpcse schema	not published	LDAP schema	security	win2k
qos schema	not published	LDAP schema	qos	win2k
qos mib	MS published	LDAP schema	qos	win2k
Cluster clusapi		server/server	base\cluster\service\clusapi_rpc.idl	
Cluster IntraCluster	intra-cluster comms	server/server	base\cluster\service\clusarpc.idl	
Cluster ExtraCluster	Out of band cluster API	server/server	base\cluster\service\clusarpc.idl	
Cluster Join/Version	Join version API	server/server	base\cluster\service\clusarpc.idl	
Cluster resmoe	Resource monitor API		base\cluster\service\clusrm_rpc.idl	
Interface eventlog	Event log file API		base\eventlog\event.idl	
DAV devoltrpc	Dev client to Service RPC		base\devoltrpc\devoltrpc.idl	
Interface prp	local and remote PrP API		base\prp\prp_rpc.idl	
Service controller evocall	NetService API		base\scrg\evocall.idl	
Remote registry winnag	Win32 registry API		base\scrg\winnag_rpc.idl	
Interface sfscapi			base\sfscapi\sfscapi_rpc.idl	
Sense SenseApi	Sense connectivity API		com\mobile\sense\com\mobile\sfscapi.idl	
Sense NotifyLogon		Local	com\mobile\sense\com\mobile\notify.idl	
Sense SENSENotify	Sense notification of external events		com\mobile\sense\com\mobile\notify.idl	
Sense GetUserToken		Local	com\mobile\sense\com\mobile\usertok.idl	
Interface ActivatorCustomMarshal			com\ole32\idl\internale\activator.idl	
Interface RemoteActivator	DCOM95 RPCSS API for forwarding remote activation		com\ole32\idl\internale\forward.idl	
Interface RCOT			com\ole32\idl\internale\nrot.idl	
Interface LocalObjectExporter			com\ole32\idl\internale\nlocal.idl	
Interface LocalSystemActivator	comspobj.dll to service controller		com\ole32\idl\internale\nobjact.idl	
Interface RShutdown			com\ole32\idl\internale\nshutdown.idl	
Interface CvtCallBack			com\ole32\idl\internale\nconvcb.idl	
Interface Cvt2Resolver			com\ole32\idl\internale\nconvr.idl	
Interface ISCM			com\ole32\idl\internale\nscm.idl	
Interface MachineActivatorControl			com\ole32\idl\internale\nscmact.idl	
Interface CallFRemoteAPIs			com\ole32\idl\internale\nscmapi.idl	
Interface ISCMActivator			com\ole32\idl\internale\nscmact.idl	
Interface ObjectExporter			com\ole32\idl\internale\nobjexp.idl	
Interface Activation			com\ole32\idl\internale\nobjact.idl	
Interface RemoteSCMActivator			com\ole32\idl\internale\nobjact.idl	
Interface RExtRpc			com\ole32\idl\internale\nobjact.idl	
Interface IDog			com\ole32\idl\internale\nobjact.idl	
Interface Versioning			com\publ\shad\idl\ole32\versioning.idl	
Interface AlertDefs			com\publ\shad\idl\ole32\sysmgmt\alertdefs.idl	
Interface Tracer			com\publ\shad\idl\ole32\tracing\tracer.idl	
Interface Traces			com\publ\shad\idl\ole32\tracing\traces.idl	
Interface dtrsv_01			com\trpc\locator\idl\trsv01.idl	
Interface LooToLoo	interface between locators		com\trpc\locator\idl\lootoloc.idl	
Interface NslC			com\trpc\locator\idl\nslc.idl	
Interface NslM			com\trpc\locator\idl\nslm.idl	
Interface NslS			com\trpc\locator\idl\nsls.idl	
Interface DataTranPerf			com\trpc\perf\data\tran\datastran.idl	
Interface RpcRuntimePerf			com\trpc\perf\scale\report.idl	
Interface RpcRuntimeScalePerf			com\trpc\perf\scale\report.idl	
Interface SyncManager			com\trpc\perf\syncmgr\syncmgr.idl	
Interface rpsvs	working set performance test		com\trpc\perf\workset\workset.idl	
Interface comv			com\trpc\trunk\trunk\comv.idl	
Interface comc			com\trpc\trunk\trunk\comc.idl	
Interface Dbgid			com\trpc\trunk\trunk\dbgid.idl	

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Interface ExtendedError		compuvuntimevifseemo.id
Interface opmp		compuvuntimevifseopmp.id
Interface localemp		compuvuntimevifseopmp.id
Interface mgmt		compuvuntimevifsemgmt.id
Interface mngpr		compuvuntimevifsemgmt.id
Interface ms_cornv		compuvuntimevifsemscornv.id
Interface nbase		compuvuntimevifsemscornv.id
Interface dnrschvr	DNS Caching Resolver APIs	compuvuntimevifsebase.id
DNS DnsServer	DNS Server API	de/dns/server/id/dnsrsvr.id
DNS dnrsrv	DNS Server NT4 API	de/dns/server/id/dnsrsvr4.id
Interface nspi	Mr Name Service Provider (Exchange 4.0 client)	de/dns/rdnsapi.id
Interface JetBack		de/dns/rdnsapi/id/jetback.id
Interface JetRest		de/dns/rdnsapi/id/jetback.id
Interface atsvc	AT Job API	de/netapi/voc/dns/atjobapi.id
Interface browser	Browser service API	de/netapi/voc/dns/browser/id/browser.id
Interface netds	Dns Manager Service	de/netapi/voc/dns/netds.id
Interface msgvcosend	Messenger Send service API	de/netapi/voc/dns/msgvcosend.id
Interface lscbgrpo		de/netapi/voc/dns/lscbgrpo.id
Interface lsrpc	License Logging Service API	de/netapi/voc/dns/lscbgrpo.id
Interface lscprpo		de/netapi/voc/dns/lscprpo.id
Interface logon	NetLogon Net Remote API	de/netapi/voc/dns/logon/id/logon.id
Interface msgvcv	Messenger service API	de/netapi/voc/dns/msgvcv/id/msgvcv.id
Interface lsclogon		de/netapi/voc/dns/lsclogon/id/lsclogon.id
Interface srsvc	Net Remote API for server service	de/netapi/voc/dns/srsvc/id/srsvc.id
Interface wksvc	Net Remote API for workstation service	de/netapi/voc/dns/wksvc/id/wksvc.id
Interface PerfFr	API between performance dll and service	de/netapi/voc/dns/perf/fr/id/perf.fr.id
Interface ncpsvc	NCP server internal APIs	de/netapi/voc/dns/ncpsvc/id/ncpsvc.id
Interface ntwkts	Network workstation internal APIs	de/netapi/voc/dns/ntwkts/id/ntwkts.id
Interface samr	Remote Security Account Manager APIs	de/publish/dns/samr/id/samr.id
Interface type_scard_pack	Smart card redirection for Terminal services	de/publish/dns/scardr/id/scardr.id
Interface lsrpc	LSA internal APIs	de/publish/dns/lsrpc/id/lsrpc.id
Interface efsrpc		de/security/base/efsrpc/id/efsrpc.id
Interface IRPCSCLogon		de/security/common/efsrpc/id/efsrpc.id
Interface ICatDBSvc		de/security/cryptocap/common/catdb/id/catdb.id
Interface ICryptProtect		de/security/cryptocap/common/cap/id/cap.id
Interface BackupKey		de/security/cryptocap/common/cap/backup/id/backup.id
Interface PasswordRecovery		de/security/cryptocap/common/cap/passrec/id/passrec.id
Interface IPStoreProv		de/security/cryptocap/common/cap/ipstore/id/ipstore.id
Interface ICertProtectFunctions		de/security/cryptocap/common/cap/keysvc/id/keysvc.id
Interface IKeySvc		de/security/cryptocap/common/cap/keysvc/id/keysvc.id
Interface IKeySvcR		de/security/cryptocap/common/cap/keysvc/id/keysvc.id
Interface ISettings		de/security/cryptocap/pki/acme/capcom/capcom.id
Interface ICertificateStatus		de/security/cryptocap/pki/acme/capcom/capcom.id
Interface IAttribute		de/security/cryptocap/pki/acme/capcom/capcom.id
Interface IAttribute		de/security/cryptocap/pki/acme/capcom/capcom.id
Interface dssetup		de/security/dsrole/id/dssetup.id
Interface appmgmt		de/security/gn/gpac/appmgmt/id/appmgmt.id
Interface pnsapp		de/security/gn/gpac/appmgmt/id/appmgmt.id
Interface UserProfile	Loads and Unloads a user profile	de/security/gn/userem/makeprofile/id/makeprofile.id
Interface IPrcFileDialog	Reporting errors to client desktop	de/security/gn/userem/makeprofile/id/makeprofile.id
Interface InShutdown	Winlogon shutdown service	de/security/gn/winlogon/shutdown/id/shutdown.id
Interface W32Time		de/security/gn/winlogon/shutdown/id/shutdown.id
Kerberos KrbDebug		de/security/protocol/kerberos/id/krbdebug.id
Interface BAPRPC	BAPP	de/security/services/bap/bap/baprpc/id/baprpc.id
Interface ICertPassage	Certificate Service	de/security/services/cert/id/certpc/id/certpc.id
Interface scerpc	Security Configuration Editor Engine API	de/security/services/cerpc/id/cerpc.id
Interface hello		de/win32/cryptocap/messaging/id/messaging.id
Interface IVgAdjustments		de/win32/cryptocap/messaging/id/messaging.id
Interface IVgDashStyleArray		de/win32/cryptocap/messaging/id/messaging.id
Interface IVgImageData		de/win32/cryptocap/messaging/id/messaging.id
Interface IVgRuntimeStyle		de/win32/cryptocap/messaging/id/messaging.id
Interface IVgTextBox		de/win32/cryptocap/messaging/id/messaging.id
Interface IVgView		de/win32/cryptocap/messaging/id/messaging.id
IS fpevc	Remote API for ftp daemon	de/netapi/voc/ftp/id/ftpvc.id
IS gopherd	Remote API for gopher server	de/netapi/voc/gopher/id/gopherd.id
IS info	IS admin API	de/netapi/voc/info/cm/infold/info.id
IS nmp	nmp server API	de/netapi/voc/nmp/id/nmpvc/id/nmpvc.id
IS ICAAdminRPC	Queue to CAPI interface	de/netapi/voc/icaadmin/id/icaadminpc/id/icaadminpc.id
IS smtp	SMTP server API	de/netapi/voc/smtp/id/smtpvc/id/smtpvc.id

IS w3svc	W3 Daemon server API	inetrv\w3svc\w3dhw\gwed.dll
MSMQ qmnotify		inetrv\msmq\src\SRCCOMMON\adnotify.dll
MSMQ qm2qm	MSMQ ISAPI extension to QM api	inetrv\msmq\src\SRCCOMMON\qm2qm.dll
MSMQ qm2qm		inetrv\msmq\src\SRCCOMMON\qm2qm.dll
MSMQ qmngm1		inetrv\msmq\src\SRCCOMMON\qmngm1.dll
MSMQ qmngm1	interface between replication service and QM	inetrv\msmq\src\SRCCOMMON\qmngm1.dll
MSMQ qmcomm		inetrv\msmq\src\SRCCOMMON\qmcomm.dll
MSMQ qmcomm2		inetrv\msmq\src\SRCCOMMON\qmcomm2.dll
MSMQ dscomm	DS remote API	inetrv\msmq\src\SRCCDSRPC\dscomm.dll
MSMQ dscomm2	ADS API	inetrv\msmq\src\SRCCDSRPC\dscomm2.dll
MSMQ rpperf	interface between replication service and perf monitor	inetrv\msmq\src\SRCCREPLSERVER\RPCupperf.dll
Interface AudioSrv		tr\tr\media\Media\audiosrv\AudioSrv.dll
DHCP dhcparv	DHCP service API	net\dhcp\server\id\dhcp.dll
DHCP dhcparv2	DHCP service API version 2	net\dhcp\server\id\dhcp2.dll
IPSEC winipsec	IPSEC APIs	net\ipsec\sp\id\ipsec.dll
Inda InNotifications		net\index\id\Innotv.dll
Inda InSendFiles		net\index\id\Insend.dll
Inda NotifyLogon		net\index\id\Inotify.dll
Layer 2 winl2		net\layer2\svr\zerocoon\id\l2wzo.dll
RRAS rrasrpc		net\rras\svr\id\rrasrpc.dll
RRAS dsrsvc	DIRM service remote api	net\rras\id\id\id\rrasvc.dll
RRAS rraspc		net\rras\svr\id\rraspc.dll
SFM sfmsvc	AFP server Admin API	net\sfm\svr\service\id\sfmsvc.dll
TAPI remotep		net\sfm\id\id\remotep.dll
TAPI taperv		net\sfm\id\id\taperv.dll
TAPI esp		net\sfm\id\id\esp.dll
UPnP uadperv		net\upnp\id\id\adperv.dll
WINS winat2	WINS server API extras	net\wins\id\id\winat2.dll
WINS winat	WINS server API	net\wins\id\id\winat.dll
PrintScan fax facclient	Remoted fax service apis	printscan\fax\service\pc\facclient.dll
PrintScan fax fac	Remoted fax service apis	printscan\fax\service\pc\facserver.dll
PrintScan fax facclient	Remoted fax service apis	printscan\fax\service\pc\facclient.dll
PrintScan fax fac	Remoted fax service apis	printscan\fax\service\pc\facserver.dll
PrintScan print vmspool		printscan\print\pool\id\id\printvmspool.dll
PrintScan print Lding64BitDls	winl2pool 64/43 stub api	printscan\print\pool\id\id\printl2pool64.dll
PrintScan vms wiaapi	WIA interface input APIs	printscan\wia\winl2\id\id\printvmswiaapi.dll
PrintScan vms wiaipco	WIA interface input APIs	printscan\wia\winl2\id\id\printvmswiaipco.dll
TerminalServer HydraLicenseService	Hydra license server	term\win\license\TLServer\id\id\hydra.dll
TerminalServer license_helper		term\win\license\TLServer\id\id\license.dll
TerminalServer licapi_helper		term\win\license\TLServer\id\id\licapi.dll
TerminalServer		
TermServLicenseBackup		term\win\license\TLServer\id\id\licbackup.dll
TerminalServer TermServLicensing		term\win\license\TLServer\id\id\licapi.dll
TerminalServer TSSDJetRPC	interface between jet client and server (dlc.exe)	term\win\jet\id\id\jetrpc.dll
TerminalServer LCRPC	interface to licensing core	term\win\license\id\id\lcrpc.dll
TerminalServer locapi	ICA API	term\win\locapi\id\id\locapi.dll

Using designed APIs (published API used to support protocol)	Replaceable (whether protocol can be changed and if so how much of the system needs to be changed with it)		
yes (except ARP)	yes, tcp	or emulate ethernet	
yes	yes	Loss UI	
yes (except ARP)	yes?		
no	yes, winsock	equivalent functionality	
yes	yes	equivalent functionality	
yes (except DHCP trigger)	yes	Loss UI	
no	yes, with ndis driver	Loss UI	
no	yes	Loss UI	
yes	yes	equivalent functionality, Loss UI	
yes	yes, winsock helper	Loss UI	
yes	yes	Loss UI	
yes	yes		
no			
yes	yes		
no	yes	Loss UI	
yes	yes	Loss UI	
no			
yes	yes		
no			
yes	yes		
no	Yes, tcp, and nbt utilities	Loss UI	
yes (server)	yes for server, required tcp for client	no dhcp rogue server protection integration	
yes	yes		
no	yes		
yes	yes		
yes	yes		
no	yes, ras	Loss, dialup on login and UI	
no	yes, ras	Loss, dialup on login and UI	
no	yes, ras	Loss, dialup on login and UI	
no	yes, ras	Loss, dialup on login and UI	
no	yes, ras	Loss, dialup on login and UI	
yes	yes		
no	yes, ras	Loss, dialup on login and UI	
no	yes, ras	Loss, dialup on login and UI	
no	yes, ras	Loss, dialup on login and UI	
no	yes, ras	Loss, dialup on login and UI	
no	yes, ras	Loss, dialup on login and UI	
no	yes, ras	Loss, dialup on login and UI	
no	yes, ras	Loss, dialup on login and UI	
yes	yes		
yes	yes		
no	yes, ras	Loss, dialup on login and UI	
yes	yes		
yes	yes		
no	yes, tcp		
no	yes, tcp		
no	yes	Loss, dialup on login and UI	
yes	yes	Loss, dialup on login and UI	
yes (except AD)	yes	server loss scheme integration	
no	yes, tcp		
no	yes		
no	yes, wins	To replace wins replication protocol would need to replace wins server and implement a duplicate protocol	
no			
no			

no	yes		
no	yes		
no	yes		
no	yes		
no	yes		
no	yes		
no	netmeeting, tspi		
no	netmeeting, tspi		
no	netmeeting, tspi		
no	netmeeting, tspi		
no	netmeeting		
no	tspi		
no	netmeeting		
no	netmeeting		
no	netmeeting		
no	netmeeting		
no	netmeeting		
no	yes		
no	no, you(transport)	replace transport protocol that dplay uses	
no	no		
no	yes		
no			
no	yes	No schema integration	
yes	yes		
no	??	equivalent functionality - replace all functions using rpo	
no			Irena Huda
yes	glns, lsa, lls		
yes	glns, lsa, lls		
no	glns, lsa, lls		
yes	glns, lsa, lls		
no	glns, lsa, lls		
no	glns, lsa, lls		
no	glns, lsa, lls		
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no			
no			
no	yes		
no	yes		
no	yes	equivalent functionality	
no	no	equivalent functionality	
yes	yes		
no	yes, lrcu		
no	yes		
yes	yes		
yes	yes		
yes	yes		
no	yes		
no	yes		
no	yes	equivalent functionality	

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