Universal Configuration of Network Print Servers

Version 1.04

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Beginnings

Configuration of INAs and ENAs is really quite easy; the various Lexmark utilities make setting up individual print servers quick and painless. The problem comes in for large organizations that are implementing hundreds, if not thousands, of print servers in a short period of time. It would be great to have an easy mechanism to configure a print server without having to go thru the op-panel or use the utilities.

The purpose of this document is to discuss the solution.

Keeping it simple

Above all, this mechanism needs to be simple for the user, the network administrator who is setting up the multitude of print servers, to use. Perhaps the easiest manner for a human to provide the information at one time is via a flat ASCII file. This file could be created via human interaction with an editor, or automatically generated via a program of some sort.

Format of the file

The information in the file would be broken up into lines. The first element on a line would be a case-insensitive key, with subsequent elements on that line being parameters associated with that key. To enhance maintainability of the file, comments would be allowed and would be delineated by the % character and would continue for the remainder of that line. Elements of the line are separated by white-space characters, spaces and tabs. Blank lines and lines that are only comments would be valid.

A key would be allowed a maximum of two usable parameters, with additional parameters being ignored. Parameters would be one of four types: a case sensitive ASCII string, a signed integer that can fit in 32 bits, an IP address of the form a.b.c.d, or a case-insensitive boolean in the set of {true, false, on, off}. Should a parameter need to contain spaces, tabs, or the comment delimiter (%), the parameter may be enclosed in double quotes ("). Keys may not be enclosed in double quotes.

If an unknown key were to be encountered while processing the file, that key and its associated parameters would be ignored without generating any errors. This allows for easy expansion without unnecessary gyrating to maintain backward compatibility.

No check is made to determine if a particular key has already been processed before it is processed again. In all likelihood, the last encountered key would be the one who wins, though that is up to the code associated with processing that key.

This is an example file:

```
%
% created 24 April 1997
%
IPADDRESS      9.51.8.43
IPNETMASK      255.255.255.128
IPGATEWAY      9.51.8.1
SNMPCOMMUNITY cilbup
RESTRICT       1 9.51.8.0
RESTRICT       2 10.1.0.0                 % allow accounting
LLNICKNAME     "I'm a little teapot"
LLACTIVE       true
NWACTIVE       false
ATACTIVE       true
ATTNAME        "I Love PostScript"
GENCONTACT     "Arnold Schwarzenegger"
GENLOCATION    "Near Maria Schriver"
IGNORED        a sample unused key with too many parameters
```

If the file does not contain good data, the desired result will not likely be achieved. Garbage in, garbage out.

There is a limit as to the maximum size the file can be, 10,000 bytes. It should be noted that the size of the file as stored on a system might be different than the size of the file the print server receives if it has any required conversions (like with TFTP from Unix where it would be converted from Unix format to NETASCII format).

How does the file get in?

It is not the purpose of this document to state how the file gets into the print server, but rather to state how the data contained in the file will be processed. It is up to the individual subsystems within the print server to determine how the file gets transported.

A lot of versatility

Obviously, this approach allows a great deal of versatility, both in terms of expansion capabilities, and in what the user can perform. As an example, consider a user who sets up his/her print servers using the time-proven utilities, and get's his/her IP address via BOOTP. This user could set his/her BOOTP server such that it gives the print server a bootfile name, which the print server could subsequently retrieve from the server each time it boots. This file could be as described in this document, and might contain a key called `TFTPCODEFILE`. Upon seeing this particular key, the print server could TFTP to the server and update its own code if it found that the server had a newer version of code!

This user didn't set up their print server using the file approach, but they definitely would be getting a great deal of benefit from file's capabilities.

Caveats

With flexibility and functionality comes fear and frustration. It would be very easy for a user to misconfigure a print server, or identically configure multiple print servers, or create other havoc.

Implemented means of downloading

As mentioned earlier, there are many theoretical techniques for getting the Universal Configuration file down to the print server. However, there are only a few in actual practice. This section describes that mechanisms that have been implemented.

Automatic TFTP after BOOTP

If a bootfile is provided as part of the BOOTP response (typically done with the `bf` (bootfile) key and sometimes requires the `hd` (home directory) key), the print server will attempt to initiate a TFTP connection with the BOOTP host to retrieve this file. The assumption is that this boot file is the Universal Configuration File for this print server.

Thought and consideration must be given before using this method. If improper keys are used, the print server could go into a state of perpetual reboot. **Only, only, only use keys that are listed as *OK at POR*.**

FTP

The file can easily be downloaded via FTP if the destination filename is `/dev/config`. If a print server password has been set, it will be necessary for the `ACCT` (typically set with the *account*

command) to be set to be the print server password. If an `ACCT` is required and has not been sent, or the value provided is incorrect, an error message will be provided and the file will not be accepted.

Parallel Port

The file can be downloaded via the parallel 1 port (with a Centronics-DB25 convertor) if the MarkNet Pro print server is placed into the proper mode. Consult your print server documentation for more information.

Serial Port

The file can be downloaded via the serial port if the MarkNet Pro print server has one and is placed into the proper mode. Consult your print server documentation for more information.

Supported keys

Table 1 shows the supported keys. Note that when a description refers to *#specified*, it is refering the integer specified in parameter 1. Any values not specified are reserved for future use.

Notes on port numbers

Port numbers always, always, always start at zero (0). The following tables define the port numbers (parallel, serial, internal, and prt) for the appropriate devices.

MarkNet S	Par Port #	Ser Port #	Int Port #	Prt Port #
Int	-	-	0	0

MarkNet Pro 3	Par Port #	Ser Port #	Int Port #	Prt Port #
Par 1	0	-	-	0
Par 2	1	-	-	1
Serial	-	0	-	2

MarkNet Pro 1	Par Port #	Ser Port #	Int Port #	Prt Port #
Par 1	0	-	-	0

Table 1: Supported Keys

Key	Parm 1 Type	Parm 2 Type	OK at POR	Description
LLACTIVE	Boolean	-	X	LexLink protocol active
LLNICKNAME	String	-	-	LexLink nickname
IPACTIVE	Boolean	-	X	TCP/IP protocol active
IPDHCPENABLE	Boolean	-	-	DHCP enabled
IPBOOTPENABLE	Boolean	-	-	BOOTP enabled
IPRARPENABLE	Boolean	-	-	RARP enabled
IPADDRESS	ip addr	-	-	IP address
IPNETMASK	ip addr	-	-	IP netmask
IPGATEWAY	ip addr	-	-	IP gateway
IPRESTRICT	Integer	ip addr	-	IP restrict address #specified
IPRESTRICTLIST	String	-	-	List of comma delimited IP Addresses to add to restricted list.
IPSNMPTRAPDEST	Integer	ip addr	-	IP SNMP trap dest #specified
IPSNMPTRAPMASK	Integer	ip addr	-	trap mask for IP dest #specified
IPTRAPTYPE	Integer	-	-	IP Trap type (1=multiplexed,

				2=individual)
IPFTPENABLE	Boolean	-	-	enable IP FTP
IPWINSADDR	Integer	ip addr	-	Ip address for the WINS server
IPHTTPENABLE	Boolean	-	-	enable IP HTTP
IPHTTPCONF	Boolean	-	-	enable IP HTTP Configuration
IPXLECOMPAT	Boolean	-	-	Enable LPD, FTP, and TFTP destinations to be compatible with a MarkNet XLe
IPMTU	Integer	-	-	IP MTU value
IPNAME	String	-	-	IP Name (to associate with WINS)
IPDNSSERVERADDR	ip addr	-	-	IP DNS server IP address
IPDEFTTL	Integer	-	-	Default IP Time-to-live value
IPTCPCKSUMMODE	Boolean	-	-	IP TCP checksum mode. Off really means modified/adaptive mode (added code level X.4.38)
IPTCPBIGMSS	Boolean	-	-	IP TCP big MSS mode. Off means no more than 536 bytes across routers, on can do larger packets (add X.9.4)
INTBANNERPAGE	Boolean	-	-	Internal banner page (0 - off, 1 - on)
ATACTIVE	Boolean	-	X	AppleTalk protocol active
ATNAME	Integer	String	-	AppleTalk Name for prt port #specified
ATTYPE	Integer	String	-	AppleTalk Type for prt port #specified
ATZONE	Integer	String	-	AppleTalk Zone for prt port #specified

ATDATAMODE	Integer	Integer	-	Data mode for port #specified (0=TBCP, default; 1=Raw; 2=BCP PostScript Level 1; 3=BCP PostScript Level 2)
ATPORTENABLE	Integer	Boolean	-	AppleTalk enabled for port #specified
ATPREFIX	Integer	String	-	AppleTalk Prefix string for port # specified
ATRESETPREFIX	Integer	Boolean	-	Reset AppleTalk Prefix string to default for port # specified
ATPOSTFIX	Integer	String	-	AppleTalk Postfix string for port # specified
ATRESETPOSTFIX	Integer	Boolean	-	Reset AppleTalk Postfix string to default for port # specified
NWACTIVE	Boolean	-	X	NetWare protocol active
NWLOGINNAME	String	-	-	NetWare login name
NWPORTENABLE	Integer	Boolean	-	NetWare enabled on prt port #specified
NWFRAMETYPES	Integer	-	-	NetWare Frame Type(s) enabled, additive (1=Token Ring, 2=Token Ring with source routing, 4=Token Ring SNAP, 8=Token Ring SNAP with source routing, 16=Ethernet 802.2, 32=Ethernet 802.3, 64=Ethernet II, 128=Ethernet SNAP)
NWSAPS	Boolean	-	-	NetWare SAPs enabled
NWGSQINITTIME	Integer	-	-	NetWare initial GSQ time interval
NWGSQINITCOUNT	Integer	-	-	NetWare initial GSQ cound for initial time interval
NWGSQSTEADYSTATE	Integer	-	-	NetWare steady-state GSQ

				time interval
`NWTREE`	String	-	-	NetWare NDS tree name
`NWCONTEXT`	String	-	-	NetWare NDS context name
`NWMODE`	Integer	-	-	NetWare mode (1=PServer, 2=RPrinter)
`NWADDSERVERS`	String	-	-	Netware Sever string
`NWADDFILESERVER`	String	-	-	NetWare file server to service for PServer mode
`NWPRINTSERVER`	Integer	String	-	NetWare print server for port #specified for RPrinter mode
`NWCLEARSERVERS`	Boolean	-	-	NetWare server list cleared when TRUE, for both PServer and RPrinter modes
`NWSIGNING`	Boolean	-	-	NetWare packet signing enabled
`NWCHECKSUMS`	Boolean	-	-	NetWare packet checksums enabled
`NWPACKETBURST`	Boolean	-	-	NetWare packet burst enabled
`NWPOLLINGINTERVAL`	Integer	Integer	-	NetWare polling interval for port #specified
`NWBANNERPAGE`	Integer	Integer	-	NetWare banner page type on prt port #specified (0=Disabled, 1=PostScript, 2=ASCII)
`NWLANGUAGE`	Integer	-	-	Sets the language that the NetWare firmware will use for event notifications (1=Italian, 2=French, 3=German, 4=Swedish, 5=Spanish, 6=Danish, 7=Norwegian, 8=Dutch, 9=English, 10=Finnish, 11=Portugese, 12=Japanese/Katakana) Also the following additional languages for ENA only (13 -

				Russian, 14 - Polish, 15 - Czech,16 - Hungarian, 17 - Turkish)
NWTRAPMASK	Integer	Integer	-	trap mask for NetWare trap #specified
NWTRAPNETWORK	Integer	String	-	four (4) byte NetWare network number for trap #specified
NWTRAPNODE	Integer	String	-	six (6) byte NetWare node number for trap #specified
NWTRAPTYPE	Integer	-	-	IPX Trap type (1=multiplexed, 2=individual)
NTPUPDATENVRAM	Boolean	-	-	Reset the NVRAM image (0 - No update, 1 - Reset NVRAM)
NTPRESET	Integer	-	-	Reset NTP Protocol
NTPTIMESOURCE	Integer	-	-	Time Source -- (1 - Disable NTP, 2 - IP, 3 - IPX)
NTPUTCOFFSET	Integer	-	-	Offset in minutes from UTC
NTPFLAGS	Integer	-	-	Flags - bit 0 => Use DST
NTPDSTONDATE	String	-	-	When to start DST Byte Meaning: (Byte 0 - Which occurrence of day in month "F" or "1" = First, "2" = Second, "3" = Third, "4" = Fourth, "5" = Fifth, "L" = Last, Byte 1 - Day of Week "0" = Sunday, Bytes 2-3 Month "01" to "12" Bytes 4-5 Hour "00" to "23" Bytes 6-7 Minute "00" to "59" Bytes 8-9 Second "00" to "59")
NTPDSTOFFDATE	String	-	-	When to stop DST Byte Meaning: (Byte 0 - Which occurrence of day in month "F" or "1" = First, "2" =

				Second, "3" = Third, "4" = Fourth, "5" = Fifth, "L" = Last, Byte 1 - Day of Week "0" = Sunday, Bytes 2-3 Month "01" to "12" Bytes 4-5 Hour "00" to "23" Bytes 6-7 Minute "00" to "59" Bytes 8-9 Second "00" to "59")
`NTPDSTOFFSET`	Integer	-	-	Offset in minutes for DST
`NTPTIMEADJUST`	Integer	-	-	Time adjustment factor
`NTPTIMESERVERNAME`	String	-	-	Time Server Name for DNS
`NTPTIMESERVERADDR`	Ip addr	-	-	Time Server IP address
`NTPLOCALTIME`	Structure	-	-	Local Time Structure (U32 LocalClock; Timer ticks since POR, U32 NetworkTime_W; Whole seconds since 1/1/1900 U32 NetworkTime_F; Not Used U8 CurrentMonth; 1 - 12 U8 CurrentDay; 1 - 31 U16 CurrentYear; 1900 - 2036, U8 CurrentHour; 0 - 23, U8 CurrentMinute; 0 - 59, U8 CurrentSeconds; 0 - 59, U8 CurrentSeconds_F; Not Used, U8 DayOfWeek_Short[5]; English Only - Mon, Tue, ..., U8 DayOfWeek_Long[10]; English Only - Monday, Tuesday…, U8 DayOfWeek_Num; Sunday = 0)
`NTPNETWORKTIME`	Structure	-	-	Network Time Structure (U32 LocalClock; Timer ticks since POR, U32 NetworkTime_W; Whole seconds since 1/1/1900 U32 NetworkTime_F; Not Used U8 CurrentMonth; 1 - 12 U8 CurrentDay; 1 - 31 U16 CurrentYear; 1900 - 2036, U8 CurrentHour; 0 -

				23, U8 CurrentMinute; 0 - 59, U8 CurrentSeconds; 0 - 59, U8 CurrentSeconds_F; Not Used, U8 DayOfWeek_Short[5]; English Only - Mon, Tue, ..., U8 DayOfWeek_Long[10]; English Only - Monday, Tuesday…, U8 DayOfWeek_Num; Sunday = 0)
NTPDSTENABLE	Boolean			Enable/Disable use of Daylight Savings Time.
NTPCOUNTRYCODE	Integer	-	-	Flags - bit 0 => Use DST
NTPDATETIME	String	-	-	Country Code
PPUPDATENVRAM	Boolean	-	-	Update the NVRAM Image (0 - no update, 1 - Reset NVRAM)
PPRESET	Integer	-	-	Reset Pull Printing Protocol (1 - reset)
PPLOCALDOMAIN	String	-	-	String containing local domains
PPDNSADDRESS	Ip addr	-	-	IP address of DNS server
PPWINSADDRESS	Ip addr	-	-	IP address of WINS server
PPHTTPPROXYADDRESS	Ip addr	-	-	Proxy address for HTTP requests
PPFTPPROXYADDRESS	Ip addr	-	-	Proxy address for FTP requests
PPTIMEOUT	Integer	-	-	Timeout setting for all requests in seconds.
PPRETRIES	Integer	-	-	Retry count for all requests
PPHTTPDEFAULTPORT	Integer	-	-	Default port for HTTP requests

PPFTPDEFAULTPORT	Integer	-	-	Default port for FTP requests
PPENABLED	Integer	-	-	Pull Print System Enabled Flag
SLPUPDATENVRAM	Boolean	-	-	Update the NVRAM image (0 - no update, 1 - reset NVRAM)
SLPRESET	Integer	-	-	Reset SLP (1 - reset)
SLPBROADCAST	Boolean	-	-	Broadcast SLP info (0 - off, 1 - on)
GENLOCATION	String	-	X	Location of print server/printer
GENCONTACT	String	-	X	contact name for print server/printer
GENJOBTIMEOUT	Integer	-	X	job timeout in seconds
GENPASSWORD	String	-	-	set print server password
GENPRINTPORT	Integer	-	-	port #specified where internal test pages will print
GENMENUBUTTON	Boolean	-	-	Sets functionality of menu button (on=functional, off=nonfunctional) (added code level x.4.39)
MACLAA	String	-	-	12 hex-digit LAA address for print server
MACSPEED	Integer	-	-	speed of MAC (1=auto, 2=10Mbps half duplex, 3=10Mbps full duplex, 4=100Mbps half duplex, 5=100Mbps full duplex, 6=4Mbps half duplex, 7=4Mbps full duplex, 8=16Mbps half duplex, 9=16Mbps full duplex)
MACBUFSIZE	Integer	-	-	Size of MAC buffer in percent of default (1=100%, 2=75%, 3=50%, 4=25%)

MACLINKMON	Boolean	-	-	MAC link monitor enabled
SERSPEED	Integer	Integer	-	Serial # specified baud rate
SERPARITY	Integer	Integer	-	Serial # specified parity
SERSTOP	Integer	Integer	-	Serial # specified stop bits, multiplied by two (e.g. 2 means 1 stop bit, 4 means 2 stop -bits)
SERBITS	Integer	Integer	-	Serial # specified number of bits
SERPACE	Integer	Integer	-	Serial #specified pacing protocol (0=DTR, 1=XON/XOFF)
SERNPA	Integer	Integer	-	Serial # specified NPA mode (1=off, 2=on)
SERATTACHTYPE	Integer	Integer	-	Serial # specified attachment type (0=unknown, 1=printer, 2=fax modem, 3=power box)
SERBANNPAGE	Integer	Boolean	-	Use banner pages on serial port #specified
SERFORCEFF	Integer	Boolean	-	Force form-feed at the end of each job on serial port #specified
PARNPA	Integer	Integer	-	Parallel # specified NPA mode (1=off, 2=on, 3=auto)
PAREOP	Integer	Integer	-	Parallel # specified EOP (0=off, 1=on)
PARMODE	Integer	Integer	-	Parallel #specified Mode (0=standard, 1=enhanced)
PAR1284	Integer	Integer	-	Parallel #specified 1284 Mode (2=Detect, 3=Force ECP, 4=Force byte, 5=Force nibble, 6=Force compatible)
PARATTACHTYPE	Integer	Integer	-	Parallel # specified attachment

				type (0=unknown, 1=printer, 2=fax modem, 3=power box)
PARBANNPAGE	Integer	Boolean	-	Use banner pages on parallel port #specified
PARFORCEFF	Integer	Boolean	-	Force form-feed at the end of each job on parallel port #specified
PRTBANNPAGE	Integer	Boolean	-	Use banner pages on prt port #specified
PRTFORCEFF	Integer	Boolean	-	Force form-feed at the end of each job on prt port #specified
PRTATTACHTYPE	Integer	Integer	-	Type of device (0=unknown, 1=printer, 2=fax modem, 3=power box) for prt port #specified
FAXSELCAPABILITIES	Integer	Integer	-	FAX capabilities for FAX on serial port #specified, additive (1=fine resolution, 2=2D encoding, 4=T6 encoding, 8=ECM, 16=binary file transfer, 32=300x300, 64=400x400, 128=200x400, 256=uncompressed mode, 512=255mm width, 1024=303mm width, 2048=legal length, 4096=unlimited length, 8192=V.17 (14400), 16384=V.33 (14400), 32768=V.29 and V.27 (9600), 65536=V.29 (9600), 131072=V.27 (4800), 262144=V.27 (2400))
FAXIDSTRING	Integer	String	-	FAX on serial port #specified ID string, right justified
FAXMODEMSTRING	Integer	String	-	FAX on serial port #specified modem initialization string
FAXNUMRINGS	Integer	Integer	-	FAX on serial port #specified

				number of rings to answer
FAXSCALING	Integer	Integer	-	FAX on serial port #specified scaling (1=scale to fit, 2=no scaling)
FAXBINARYTYPE	Integer	Integer	-	FAX on serial port #specified binary encoding type (1=TBCP, 2=ASCII85)
FAXEERROR	Integer	Boolean	-	FAX on serial port #specified enhanced error handling
FAXPRTPORT	Integer	Integer	-	FAX on serial port #specified output printer port (0…254=prt port # (obviously cannot be the same as the fax prt port), 255=first available)
FAXSTATIONNAME	String	-	-	Station Name (20 characters right justified)
FAXSPEAKERVOLUME	Boolean	-	-	Speaker Volume (0 - Off, 1 - On)
FAXSTATIONPHONE	String	-	-	Station Phone Number (right justified)
FAXSPEAKERMODE	Integer	-	-	Speaker Mode (1 - Always off, 2 - On until connected, 3 - Always On)
FAXRINGSTOANSWER	Integer	-	-	Number of rings before an Answer (values 1-25)
FAXSTORAGE	Boolean	-	-	Fax Storage Enable (0 - Off, 1 - On)
FAXAUTOREDUCT	Boolean	-	-	Auto Reduction Enable (0 - Off, 1 - On)
FAXAUTOREDIALNUM	Integer	-	-	Auto Redial Number (0 - Disable Redial, 1…25 - number of times to redial)
FAXAUTOREDIALFRQ	Integer	-	-	Auto Redial Frequency in Minutes (values 1 - 255)

`FAXPAPERSIZE`	Integer	-	-	Paper Size (Values defined in RDC NPA command)
`FAXPAPERTYPE`	Integer	-	-	Paper Type (Values defined in NPAP Specification)
`FAXOUTPUTBIN`	Integer	-	-	Fax Output Bin (1…7 - Bins 1 through 7, 254 - Standard Bin, 255 Printer default)
`FAXDEFRESOLUTION`	Integer	-	-	Default Resolution (1 - Standard, 2 - Fine, 3 - Super Fine, 4 - Ultra Fine)
`FAXDEFCONTENT`	Integer	-	-	Default Content (1 - Text, 2 - Mixed, 3 - Photo)
`FAXDEFDARKNESS`	Integer	-	-	Default Brightness (Values 1 - 9)
`FAXDIALINGMODE`	Integer	-	-	Dialing Mode (0 - Pulse, 1 - Tone)
`FAXTRANSLOG`	Integer	-	-	Transmission Log (1 - Always print, 2 - Print only on errors, 3 - Never print)
`FAXLOGPRINTING`	Boolean	-	-	Enable Log Printing (0 - Off, 1 - On)
`FAXLOGPAPERSIZE`	Integer	-	-	Log Paper Size (Values defined in RDC NPA command)
`FAXLOGPAPERTYPE`	Integer	-	-	Log Paper Type (Values defined in NPAP Specification)
`FAXLOGOUTPUTBIN`	Integer	-	-	Log Output Bin (1…7 - Bins 1 through 7, 254 - Standard Bin, 255 Printer default)
`FAXRINGERVOLUME`	Integer	-	-	Ringer Volume (1 - Off, 2 - Low, 3 Medium, 4 High)
`FAXRCVFAXENABLE`	Boolean	-	-	Receive Fax Enable (0 - Off, 1 - On)

FAXSCANFAXENABLE	Boolean	-	-	Scanner Fax Enable (0 - Off, 1 - On)
FAXDRVRFAXENABLE	Boolean	-	-	Driver Fax Enable (0 - Off, 1 - On)
FAXECMENABLE	Boolean	-	-	ECM Enable (0 - Off, 1 - On)
FAXSENDTESTFAX	String	-	-	Test Fax Phone Number (right justified)
FAX2MEMENABLE	Boolean	-	-	Scan to Memory Enable (0 - Off, 1 - On)
FAXPRTOUTPUTBIN	Integer	-	-	Printer Output Bin (1…7 - Bins 1 through 7, 254 - Standard Bin, 255 Printer default)
FAXPRTINPUTTRAY	Integer	-	-	Printer Input Tray
FAXBEHINDPABX	Boolean	-	-	Behind PABX
SNMPCOMMUNITY	String	-	-	SNMP community name
SNMPSET	Boolean	-	-	SNMP setting allowed (0 - Off, 1 - On)
TFTPCODEFILE	String	-	X	path and filename of flash file for automatic code update via TFTP (valid only in BOOTP bootfile and **must** be last key in file)
JOB_ACCT_MODE	Integer	-	-	Mode.1 = Off: OptraImage panel and job accounting information is not affected, 2 = Courtesy I: Number entry without validation, 3 = Courtesy II: Scrolling through accounts without validation, 4 = Courtesy III: Scrolling through accounts with validation, 5 = Security: Number entry with validation.
JOB_ACCT_TIMEOUT	Integer	-	-	Timeout - Inactivity period

				before returning to locked screen on OptraImage panel.Range 20 -240 secs
JOB_ACCT_ADD	String	-	-	To add a String consisting of Name/Number pair to the Account information.Format - (xx "NAME=Joe Young;NUMB=1234").Constraints - 'xx' is a number between 1 & 50. String:Max.length = 41,Name and Number seperated by ';'. Name & Number: Max length =16
JOB_ACCT_DELETE	String	-	-	To delete a record corresponding to an account number. Format - (xx "NAME=Joe Young;NUMB=1234").Constraints - 'xx' is a number between 1 & 50. String:Max.length = 41,Name and Number seperated by ';'. Name & Number: Max length = 16
JOB_ACCT_CLEAR	Boolean	-	-	To delete the job accounting information block.
HTTPLINK	Integer	String	-	product specific HTTP link variable #specified (see lexmark1.mib)
HTTPLABEL	Integer	String	-	product specific HTTP label variable #specified (see lexmark1.mib)
HTTPSETTING	Integer	Integer	-	HTTP setting for HTTP variable #specified (1=off, 2=on, 3=restore to default, 6=erase and restore to default) (see lexmark1.mib)
LPDTIMEOUT	Integer	-	-	LPD timeout in seconds (0=disable)

`LPDBANNPAGE`	Boolean	-	-	Use LPD banner page on LPD jobs
`LPDTRAILPAGE`	Boolean	-	-	Use LPD trailer page option on LPD jobs
`LPDAUTOCR`	Boolean	-	-	Do CR/LF fixup on all LPD jobs
`VARVARS`	Integer	String	-	product specific VAR string variables
`VARVARI`	Integer	String	-	product specific VAR integer variables
`VARVARB`	Integer	String	-	product specific VAR boolean variables
`OEMQVARS`	Integer	String	-	product specific OEM string variables
`OEMQVARI`	Integer	String	-	product specific OEM integer variables
`OEMQVARB`	Integer	String	-	product specific OEM boolean variables

Table 2: Neptune/Poseidon/Piranha Specific Keys

Key	Parm 1 Type	Parm 2 Type	Parm 1 Value	Description
`VARVARS`	integer	string	1	HTTP Label number 1
`VARVARS`	integer	string	2	HTTP Label number 2
`VARVARS`	integer	string	3	HTTP Label number 3
`VARVARS`	integer	string	4	HTTP Label number 4
`VARVARS`	integer	string	5	HTTP Label number 5

VARVARS	integer	string	6	HTTP Label number 6
VARVARS	integer	string	7	HTTP Link associated with HTTP Label 1
VARVARS	integer	string	8	HTTP Link associated with HTTP Label 2
VARVARS	integer	string	9	HTTP Link associated with HTTP Label 3
VARVARS	integer	string	10	HTTP Link associated with HTTP Label 4
VARVARS	integer	string	11	HTTP Link associated with HTTP Label 5
VARVARS	integer	string	12	HTTP Link associated with HTTP Label 6
VARVARI	integer	integer	1	product specific values defined in lexmark1.mib associated with HTTP Label 1
VARVARI	integer	integer	2	product specific values defined in lexmark1.mib associated with HTTP Label 2
VARVARI	integer	integer	3	product specific values defined in lexmark1.mib associated with HTTP Label 3
VARVARI	integer	integer	4	product specific values defined in lexmark1.mib associated with HTTP Label 4
VARVARI	integer	integer	5	product specific values defined in lexmark1.mib associated with HTTP Label 5
VARVARI	integer	integer	6	product specific values defined in lexmark1.mib associated with HTTP Label 6
VARVARB	integer	boolean	1	When set to true, the cache of HTTP information will be stored in NVROM

Karl Lindahl   Revised 8/10/1999

Vic Mollett   5/26/1998