

HBA Settings
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Change History

Date	Affected Component	Affected OS	Changes
11/10/03	LSI4x9x90/7004G2-LC/7x02XP-LC	All Windows Platform	“DisableRescan=1” requirement has been re-applied for Yuma 1.0.
	QLogic QL23xx	All Windows Platform	“BusChange=0” requirement has been re-applied for Yuma 1.0.
1/22/04	Emulex LP1XXXX	W2K and W2K3	Added this component to the list
1/22/04	All	All	Added Hyperlinks to TOC
1/22/04	Emulex LP9XX2 and LP1XXXX	W2K and W2K3	Added MPP registry change InquiryWaitTime
2/27/04	Emulex LP9XX2 and LP1XXXX	All Windows Platform	Added “SimulateDevice=1”
	Emulex LP9XX2 and LP1XXXX	Solaris	Added /kernel/drv/lpfc.conf settings
03/02/04	All Emulex, LSI Logic and QLogic HBAs	N/A	Removed Tier 1 & Tier 2 O/S differentiation.
04/14/04	QLogic QL2300/QL2310	Solaris, Linux & Netware	Changed “PortDownRetryCount” on Linux from 12 to 30. Changed “LinkDownTimeout” on Solaris, Linux and Netware from default (30) to 60.
	QLogic QL2300/QL2310 & QL234x	All	Distinguished “PortDownRetryCount” and “LinkDownTimeout” BIOS parameters between “Sonoran 4 and earlier” vs. “Yuma 1 going forward.”
04/20/04	QLogic QL2300/QL2310 & QL234x	Linux	Change the “PortDownRetryCount” and “LinkDownTimeout” BIOS parameters for Yuma program going forward, to reflect a “QLogic Failover Solution” setting vs. a “LSI MPP Failover Solution” setting.
	Emulex LP952L/LP9002L/LP9002DC/ LP982/LP9802/LP9802DC/LP1050/ LP10000/LP10000DC	All Platform	Combined the “LP9002/LP9002L/LP9802” and “LP10000/LP10000DC” tables into one. Added LP952L, LP9002DC, LP982, LP9802DC, & LP1050 HBAs into the list.
06/08/04	QLogic QL2300/QL2310 & QL234x	Linux	Starting with driver version 7.00.03 for Yuma 1.0, the “PortDownRetryCount” BIOS parameters has been changed (from 70 to 35) when used with the LSI MPP failover solution. Prior to this driver version, this parameter was set to 70.
7/21/04	Emulex LP952L/LP9002 LP952L/ LP9002L L/LP9002DC/ LP982/LP9802/LP9802DC/LP1050/ LP10000/LP10000DC	All Windows Platform	Added “SingleScanTask” registry entry for MPP with Emulex . (YUMA 1) Changed Emulex HBA entry : InquiryWaitTime (REG_DWORD) (driver 4.82a4 or higher) to InquiryWaitTime (REG_DWORD) Sonoran 4 and Later
12/01/2004	Emulex LP8000	All Windows Platform	Added HLinkTimeOut and other parameters from the LP9XX and LP1XXXX entry , these values should have been updated when we paper qualified the LP8000 for Sonran 4. Changed “Supported up to Sonoran 2 for Windows NT/2K” to “Supported up to Sonoran 4 for Windows NT/2K” (pb)
01/20/2005	Emulex LP952L/LP9002 LP952L/ LP9002L L/LP9002DC/ LP982/LP9802/LP9802DC/LP1050/ LP10000/LP10000DC	All Windows Platform	Modified “SingleScanTask” registry entry for MPP with Emulex. This entry is only needed for MPP driver version 9.00.XX (pb)
01/21/2005	QLogic QLA2300/QLA2310/QLA234x	All Platform	Change the requirement for enabling the hard loop id to only arbitrated loop topology. (bc)
03/16/2005	QLogic QLA2300/QLA2310/QLA234x	All Windows Platform	Corrected the registry name “DriverParameter” to “DriverParameters”
05/03/2005	Emulex, LSI & QLogic HBAs	W2K & WS03	Added “DisableLunRebalance=3” for Cluster configuration.
07/12/2005	QLA2300/QLA2310/QLA234x	Linux	Modified the RHAS2.1/SuSE8.0 settings to reflect that it only applies to all 6.x failover driver instead of just “6.5.60 series drivers” Added the settings for RHAS 3 & 4 / SuSE 8 & 9 settings with RDAC failover driver.
07/12/2005	Emulex HBAs	Linux	Added two new HBA settings for driver versions 7.2.4 and above. 1) linkdown-tmo: changing it from 30 (default) to 60 to survive brown-outs 2) nodev-tmo : changing it from 30 (default) to 60 for the controller chips to come up during Start-Of-Day

Brocade 2400/2800/6400/3200/3800/3900/12000

Note 1: If you are running in a heterogeneous host environment where you have the LSI & JNI HBAs in the configuration, please enable the Sequence Switching flag even though you may also have other HBAs.

Note 2: Follow these steps to check and to change the settings:-

- 1) Use the “configShow” command to display the switch parameters.
- 2) Use the “switchDisable” command to disable the switch before using the “configure” command to change any parameters.

Items	Default	All LSI & JNI HBAs	Others
diag.postDisable	0	0	0
fabric.domain	1	1	1
fabric.ops.BBCredit	16	16	16
fabric.ops.E_D_TOV	2000	2000	2000
fabric.ops.R_A_TOV	10000	10000	10000
fabric.ops.dataFieldSize	2112	2112	2112
fabric.ops.max_hops	7	7	7
fabric.ops.mode.SeqSwitching (or “tachyonCompat”)	0	1	0
fabric.ops.mode.fcpProbeDisable	0	0	0
fabric.ops.mode.isolate	0	0	0
fabric.ops.mode.longDistance	0	0	0
fabric.ops.mode.noClassF	0	0	0
fabric.ops.mode.pidFormat	0	0	0
fabric.ops.mode.sync	0	0	0
fabric.ops.mode.unicastOnly	0	0	0
fabric.ops.mode.useCsCtl	0	0	0
fabric.ops.mode.vcEncode	0	0	0
fabric.ops.vc.class.2	2	2	2
fabric.ops.vc.class.3	3	3	3
fabric.ops.vc.config	0xc0	0xc0	0xc0
fabric.ops.vc.linkCtrl	0	0	0
fabric.ops.vc.multicast	7	7	7
fabric.ops.wan_rtt_dly_max	200	200	200
fabric.ops.wan_tov	0	0	0
fc4.fcIp.address	0.0.0.0	0.0.0.0	0.0.0.0
fc4.fcIp.mask	0.0.0.0	0.0.0.0	0.0.0.0
fcAL.fanFrameDisable	0	0	0
fcAL.openSendCLS	0	0	0
fcAL.useAltBBCredit	0	0	0
lcdContrast	128	128	128
lcdContrast.orange	208	208	208
licenseKey			
route.delayReroute	0	0	0
route.embeddedPortBcast	1	1	1
route.stickyRoutes	0	0	0
rpc.rapid	1	1	1
rpc.rstatd	0	0	0
rpc.rusersd	0	0	0

shell.delete	0	0	0
shell.quiet	0	0	0
shell.timeout	0	0	0
syslog.errDisplayLevel	5	5	5
syslog.errsOnConsole	1	1	1
thresh.alarmsfilter	1	1	1
thresh.thad	1	1	1
xlativeModeDisable	0	0	0
Displaying enabled/disabled portlog events			
start(a switch start or re-start event)	Enabled	Enabled	Enabled
disable(a port is disabled)	Enabled	Enabled	Enabled
enable(a port is enabled)	Enabled	Enabled	Enabled
ioctl(a port I/O control is executed)	Enabled	Enabled	Enabled
Tx(a frame is transmitted)	Enabled	Enabled	Enabled
Tx1(a frame is transmitted, class 1)	Enabled	Enabled	Enabled
Tx2(a frame is transmitted, class 2)	Enabled	Enabled	Enabled
Tx3(a frame is transmitted, class 3)	Enabled	Enabled	Enabled
Rx(a frame is received)	Enabled	Enabled	Enabled
Rx1(a frame is received, class 1)	Enabled	Enabled	Enabled
Rx2(a frame is received, class 2)	Enabled	Enabled	Enabled
Rx3(a frame is received, class 3)	Enabled	Enabled	Enabled
stats(port status or statistics)	Enabled	Enabled	Enabled
scn(a state change notification)	Enabled	Enabled	Enabled
pstate(a port changes physical state)	Enabled	Enabled	Enabled
reject(a received frame is rejected)	Enabled	Enabled	Enabled
busy(a received frame is busied)	Enabled	Enabled	Enabled
ctin(a CT based request is received)	Enabled	Enabled	Enabled
ctout(a CT based response is transmitted)	Enabled	Enabled	Enabled
errlog(a message is added to the error log)	Enabled	Enabled	Enabled
loopscn(a loop state change notification)	Enabled	Enabled	Enabled
create(a task is created)	Enabled	Enabled	Enabled
debug(generic debug info)	Disabled	Disabled	Disabled
nbrfsm(neighbor state transition)	Enabled	Enabled	Enabled
timer(timer)	Enabled	Enabled	Enabled
sn(speed negotiation)	Enabled	Enabled	Enabled
nsRemQ(inter-sw NS query)	Enabled	Enabled	Enabled
nsRemR(inter-sw NS response)	Enabled	Enabled	Enabled
rscn(RSCN)	Enabled	Enabled	Enabled
reconf(fabric reconfiguration)	Enabled	Enabled	Enabled

In-Order Delivery Option	Off	On
<p>Steps to change this option:</p> <ol style="list-style-type: none"> 1) Bring up an Internet browser (i.e Internet Explorer, Netscape, etc). 2) Type the Brocade switch's IP address on the "Address" line. 3) When the "Fabric View" is up, double click on the switch icon. 4) The "Switch Management Application" window pops up. Click on the "Admin" icon. 5) Enter the userid "admin" and password "password." 6) The "Switch Admin" window pops up. Select the "Routing" tab. 7) Turn on the "In-Order Delivery (IOD)" option. 8) Click the "OK" button. 		

Cisco MDS Series Switch

Turn on the In Order Delivery option

ContinuStor Director - Tahoe

Note 1: Volume groups created on the LSI ARRAY should always use "Windows 2000 Non-Clustered" Host type regardless if you are running in a heterogeneous host environment

Note 2: Follow these steps to check and to change the settings:-

- 1) Use the "q pref" command to display the CSD parameters.
- 2) Read the product command reference, user guide and release notes before changing any of these parameters. Use the "set" command to change the parameter value.
- 3) **Bold** Parameter names in the Items columns are parameters that can be changed by end users. If a parameter name is not Bold then it should not be changed accept upon direction from customer support.

Items	Default	Windows NT & 2K	Solaris	HP/UX	Comments
ARPFREQ	5	5	5	5	Sets how often the system sends Address Resolution Protocol (ARP) packets
B512MAX	131072	131072	131072	131072	Causes system to throttle host I/O requests if the number of buffers falls exceeds set value
B512MIN	57344	57344	57344	57344	Causes system to throttle host I/O requests if the number of buffers falls below set value
FTASKMAX	48	48	48	48	
FTASKMIN	24	24	24	24	
CACHEMAX	1024	1024	1024	1024	Causes system to throttle host I/O requests if cache pages exceed set value
CACHEMIN	256	256	256	256	Causes system to throttle host I/O requests if cache pages fall below set value
CMIHTO	16	16	16	16	Sets the maximum number of consecutive MIH events before device is forced offline
CMODSHFT	2	2	2	2	
DSPSLICE	75000	75000	75000	75000	Sets the time slice that each task is allocated before it is rescheduled
DISC	off	off	off	off	Causes each host I/O operation to disconnect from the bus before transferring any data
DUMP	off	off	off	off	Causes system memory dump to internal disk drive upon a system software failure (crash)
ESTABVFY	off	off	off	off	
FUA	off	off	off	off	Causes I/O writes to wait until written to physical media, preventing use of back-end device cache.
HUB	on	on	on	on	Sets the ability to attach several CSD network ports to a single Ethernet Hub
ICMPMSG	off	off	off	off	Causes (ICMP) messages to be displayed, used to minimize the display of non-critical events

INQWWD	off	off	off	off	Causes inquires to mode page 8 to return unique device serial numbers
IOBQMAX	50	50	50	50	
MAXPIN	128	128	128	128	Sets the maximum number of pinned cache blocks that can exist before blocking host write I/Os
MODLRUE	off	off	off	off	
NODENAME	off	off	off	off	
PINGMSG	on	on	on	on	
POWEROUT	30	30	30	30	
PREFETCH	off	off	off	off	
PREFSIZE	Max	Max	Max	Max	
RMTASYNW	off	off	off	off	
STAGEBLK	2048	2048	2048	2048	
SYNWRITE	on	on	on	on	
SYSDEBUG	off	off	off	off	
TCPAACK	on	on	on	on	
TCPDELAY	0	0	0	0	
TCPLS	off	off	off	off	
TCPPATH	on	on	on	on	
TCPSIZE	0	0	0	0	
TCPTOMSG	off	off	off	off	
TCPQMAX	64000	64000	64000	64000	
TCPQMIN	48000	48000	48000	48000	
TCPSMAX	150	150	150	150	
TCPSMIN	100	100	100	100	
WRITEBLK	512	512	512	512	
Missing Interrupt Handlers (Timers)					
MMIH (disk)	60	60	60	60	
MIH (host)	45	45	45	45	
MIH (line)	2	2	2	2	
MIH (CD)	24	24	24	24	
MIH (tape)	24	24	24	24	
MIH (LSI)	120	120	120	120	
MIH (ARK)	8	8	8	8	
MIH (other)	14	14	14	14	
TCP (Timers)					
Keep Alive	12288	60	60	60	
Max Seg Lifet	15360	45	45	45	
Timeout Mult	3	2	2	2	
Persistence	3072	24	24	24	
Retransmit	512	24	24	24	
Slow line RTT	5	120	120	120	
Round trip	512	8	8	8	

ContinuStor Director – Internal HBAs (Qlogic 2202)

ITEM	Default	CSD
BIOS SETTINGS		
HOST ADAPTER SETTINGS		
Host Adapter BIOS	Disabled	Disabled
Frame Size	2048	2048
Loop Reset Delay	5	8

Adapter Hard Loop ID	Disabled	Enabled
Hard Loop ID (should be unique for each HBA)	0	Eg. 22
ADVANCE ADAPTER SETTINGS		
Execution Throttle	16	64
Fast Command Posting	Disabled	Enabled
>4Gbyte Addressing	Disabled	Disabled
LUNs per Target	8	0
Enable LIP Reset	No	No
Enable LIP Full Login	Yes	Yes
Enable Target Reset	No	No
Login Retry Count	8	30
Port Down Retry Count	8	70
Drivers Load RISC Code	Enabled	Enabled
Enable Database Updates	No	No
Disable Database Load	No	No
IOCB Allocation	256	256
Extended Error Logging	Disabled	Disabled
EXTENDED FIRMWARE SETTINGS		
Extended Control Block	Enabled	Enabled
RIO Operation Mode	0	0
Connection Options	0	3
Class 2 Service	Disabled	Disabled
ACK0	Disabled	Disabled
Fibre Channel Tape Support	Disabled	Disabled
Fibre Channel Confirm	Disabled	Disabled
Command Reference Number	Disabled	Disabled
Read Transfer Ready	Disabled	Disabled
Response Timer	0	0
Interrupt Delay Time	0	0

EMULEX LP7000E (Supported up to Viking 3 for NT/2K and Sonoran 3 for AIX)

ITEM	Default	NT	W2K	Solaris	LINUX	IRIX	Netware	AIX	HP-UX
O/S REGISTRY SETTINGS									
(HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→LPXNDS [for W2K] or LP6NDS [for NT] →Parameters→Device) under DriverParameter variable (note: DriverParameter is of type REG_SZ and the following parameters are added to the DriverParameter string. Do not create a separate key for each of the parameters.)									
EnableDPC	0	1	1						
EmulexOption (4.53a5 and earlier)	0	0	0x20						
EmulexOption (4.81a4 and higher)	0x4200	0x4200	0x4220						
ResetFF	0	1	1						
RetryInterval	45	105	105						
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE →System →CurrentControlSet →Services →LPXNDS [for W2K] or LP6NDS [for NT] →Parameters →Device)									
LargeLuns (REG_DWORD)	1	1	N/A						
MaximumSGLList (REG_DWORD)	0x21	0xff	0xff						
O/S REGISTRY SETTINGS									
(HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→Disk)									

TimeOutValue (REG_DWORD)	0x3C	0x78	0x78						
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EMULEX LP8000 (Supported up to Sonoran 4 for Windows NT/2K)

ITEM	Default	NT	W2K	W2K3	Solaris	LINUX	Netware	AIX	HP-UX
O/S REGISTRY SETTINGS (HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→LPXNDS [for W2K] or LP6NDS [for NT] →Parameters→Device) under DriverParameter variable (note: DriverParameter is of type REG_SZ and the following parameters are added to the DriverParameter string. Do not create a separate key for each of the parameters.)									
EnableDPC	0	1	1						
EmulexOption (driver 4.53a5 and earlier)	0	0	0x20						
EmulexOption (driver 4.81a4)	0x4200	0x4200	0x4220						
EmulexOption (driver 4.82a4)	0xc200	0xc200	0xc200						
EmulexOption (driver 5.00a10-1 and higher)	0xd200	N/A	0xd200						
NodeTimeout (driver 4.81a4 and higher)	20	60	60						
HlinkTimeout (driver 4.81a4 and higher)	30	60	60						
ResetFF	0	1	1						
RetryInterval (no longer being used in driver 4.53a5 and higher)	45	105	105						
SimulateDevice (driver 4.82a4 and higher)	0	1	1						
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→LPXNDS [for W2K] or LP6NDS [for NT] →Parameters→Device)									
LargeLuns (REG_DWORD)	1	1	N/A						
MaximumSGLList (REG_DWORD)	0x21	0xff	0xff						
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE→SYSTEM→CurrentControlSet→Services→rdacdisk→parameters)									
InquiryWaitTime (REG_DWORD) Sonoran 4 and Later	0X3C	N/A	0x258						
SingleScanTask (REG_DWORD) Only used with RDAC driver version 9.00. XX	0X0	0X1	0X1						
O/S REGISTRY SETTINGS (HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→Disk)									
TimeOutValue (REG_DWORD)	0x3C	0x78	0x78						

EMULEX LP952L/LP9002L/LP9002DC/LP982/LP9802/LP9802DC/LP1050/LP10000/LP10000DC

ITEM	Default	NT	W2K	W2K3	Solaris	LINUX	Netware	AIX	HP-UX
O/S REGISTRY SETTINGS (HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→LPXNDS [for W2K] or LP6NDS [for NT] →Parameters→Device) under DriverParameter variable (note: DriverParameter is of type REG_SZ and the following parameters are added to the DriverParameter string. Do not create a separate key for each of the parameters.)									
EnableDPC	0	1	1	1					
EmulexOption (driver 4.53a5 and earlier)	0	0	0x20	N/A					
EmulexOption (driver 4.81a4)	0x4200	0x4200	0x4220	N/A					
EmulexOption (driver 4.82a4)	0xc200	0xc200	0xc200	N/A					
EmulexOption (driver 5.00a10-1 and higher)	0xd200	N/A	0xd200	0xd200					

NodeTimeout (driver 4.81a4 and higher)	20	60	60	60					
HlinkTimeout (driver 4.81a4 and higher)	30	60	60	60					
ResetFF	0	1	1	1					
RetryInterval (no longer being used in driver 4.53a5 and higher)	45	105	105	N/A					
SimulateDevice (driver 4.82a4 and higher)	0	1	1	1					
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE → System → CurrentControlSet → Services → LPXNDS [for W2K] or LP6NDS [for NT] → Parameters → Device)									
LargeLuns (REG_DWORD)	1	1	N/A	N/A					
MaximumSGLList (REG_DWORD)	0x81	0xff	0xff	0xff					
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE → SYSTEM → CurrentControlSet → Services → rdacdisk → parameters)									
DisableLunRebalance (REG_DWORD) <i>Only applies to Cluster configuration. Yuma 1.0 and Later</i>	0x00	N/A	0x03	0x03					
InquiryWaitTime (REG_DWORD) Sonoran 4 and Later	0X3C	N/A	0x258	0x258					
SingleScanTask (REG_DWORD) Only used with RDAC driver version 9.00. XX	0X0	0X1	0X1	0X1					
O/S REGISTRY SETTINGS (HKEY_LOCAL_MACHINE → System → CurrentControlSet → Services → Disk)									
TimeoutValue (REG_DWORD)	0x3C	0x78	0x78	0x78					
tape	“sctp”				“sctp”				
use-lomempages	0				0				
link-speed	0				0				
Red Hat Linux Advanced Server 3 & 4 / SuSE Linux Enterprise Server 8 & 9 (7.2.4 driver and above)									
The following parameters should be modified via the HBAnyware tool provided by Emulex									
1) linkdown-tmo : By default it is set to 30 and we are changing it to 60 to survive brown-outs									
2) nodev-tmo : By default it is set to 30 and we are changing it to 60 for the controller chips to come up									

Solaris

/kernel/drv/lpfc.conf (Driver: 6.01fx1)			
log-verbose	0	0	
log-only	1	1	
automap	2	com	0=Scan Persistent Binding Only, 1=WWNN Binding, 2=WWPN Binding 3=DID Binding
fcp-bind-method	2	2	
lun-queue-depth	30	30	
tgt-queue-depth	0	0	
no-device-delay	1	0	
network-on	Com	0	When installing the driver, the user will be asked whether this options is set or not.
xmt-que-size	256	256	
scan-down	1	1	
linkdown-tmo	30	60	
nodev-holdio	0	0	
nodev-tmo	30	60	

delay-rsp-err	0	0
check-cond-err	0	0
num-iocbs	256	256
num-bufs	128	128
topology	0	0
ip-class	3	3
fcp-class	3	3
use-adisc	0	0
extra-io-tmo	0	0
post-ip-buf	128	128
dpfull-throttle-up-time	1	1
dpfull-throttle-up-inc	1	1
ack0	0	0
cr-delay	0	0
cr-count	1	1
xmt-que-size	256	256
discovery-threads	1	1
fdmi-on	0	0
link-speed	0	0

HP-UX A3404A/A3591B/A5158A/A6684A/A6685A/A6795A (A3404A, A3591A & A5158A Supported up to ALL Sonoran 4 releases)

The IO timeout value needs to be changed from 30 seconds (default) to **120 seconds** by using the following command:

```
pvchange -t 120 /dev/dsk/c6t0d0
```

This command needs to be executed for each block device (volume).
If you reboot the host you need to re-execute the command.

JNI FCE-1473/FCE-6460/FCX6562

Component Settings			
ITEM	Default	Solaris	Comments
/kernel/drv/jnic146x.conf (Driver: 5.3.0.3)			
FcLoopEnabled	1	com	0=Non Loop, 1=Loop/ If Loop=0 & Fabric=0, it's Auto topology
FcFabricEnabled	0	com	0=Non Fabric, 1=Fabric
FcEngHeartbeatInterval	5	5	In seconds
FcLinkUpRecoveryTime	1000	1000	In milliseconds
BusRetryDelay	5000	5000	In milliseconds
TargetOfflineEnable	1	0	0=Disable, 1=Enable
FailoverDelay	30	60	In seconds
FailoverDelayFcTape	300	300	In seconds
TimeoutResetEnable	0	0	

QfullRetryCount	5	5	
QfullRetryDelay	5000	5000	In milliseconds
LunRecoveryInterval	50	50	In milliseconds
FcLinkSpeed	3	com	0=Default to SEEPROM setting, 1=1GB, 2=2GB, 3=Auto negotiate link speed
JNICreationDelay	1	10	In seconds
FlogiRetryCount	3	3	
FcFlogiTimeout	10	10	In seconds
PlogiRetryCount	5	5	
PlogiControlSeconds	30	30	In seconds
LunDiscoveryMethod	1	1	0=SCSI Inquiry method, 1=LUN reporting.
CmdTaskAttr	0	0	0="Simple Queue", 1=Untagged.
automap	0	1	0=Disable, 1=Enable, 2=Loop Only
FclpEnable	1	0	0=Disable, 1=Enable, 2=Loop Only
OverrunFailoverCount	0	0	
PlogiRetryTime	50	50	
SwitchGidPtSyncEnable	0	0	
target_throttle	256	256	
lun_throttle	64	64	
targetX_throttle	256	256	
targetX_lun_throttle	64	64	
targetX_lunY_throttle	64	64	

Example of IOP changes appended to /kernel/drv/jnic146x.conf

```
## Changes made by IOP
```

```
## Binding. Uncomment and change wwpn
jnic146x0-target0_wwpn="$200800A0B80CBEB6"; #5884-53-54
jnic146x0-target0_hba="jnic146x0";
jnic146x0-target1_wwpn="$200900A0B80CBEB6"; #5884-53-54
jnic146x0-target1_hba="jnic146x0";
jnic146x0-target2_wwpn="$200600A0B80FB995"; #4884-50-51
jnic146x0-target2_hba="jnic146x0"
jnic146x0-target3_wwpn="$200700A0B80FB995"; #4884-50-51
jnic146x0-target3_hba="jnic146x0";

jnic146x1-target0_wwpn="$200800A0B80CBEB6"; #5884-53-54
jnic146x1-target0_hba="jnic146x1";
jnic146x1-target1_wwpn="$200900A0B80CBEB6"; #5884-53-54
jnic146x1-target1_hba="jnic146x1";
jnic146x1-target2_wwpn="$200600A0B80FB995"; #4884-50-51
jnic146x1-target2_hba="jnic146x1"
jnic146x1-target3_wwpn="$200700A0B80FB995"; #4884-50-51
jnic146x1-target3_hba="jnic146x1";

jnic146x0-FcLinkSpeed=3;
jnic146x0-automap=1;
```

```
jnic146x0-FcLoopEnabled    = 0;
jnic146x0-FcFabricEnabled  = 1;
```

```
jnic146x1-FcLinkSpeed=3;
jnic146x1-automap=1;
jnic146x1-FcLoopEnabled    = 0;
jnic146x1-FcFabricEnabled  = 1;
```

```
JniCreationDelay = 10;
FailoverDelay = 60;
TargetOfflineEnable = 0;
```

JNI FC64-1063 (Supported up to ALL Sonoran 4 releases)

Component Settings

ITEM	Default	Solaris	Comments
/kernel/drv/fcaw.conf			
scsi_initiator_id	0x7d	0x7d	The default is none in the explanation but it comes set at this value
fca_nport	0	0/1	Settings: 0 = Loop 1= Fabric
public_loop	0	0	
Target_controllers	126	126	
ip_disable	1	1	
lp_compliant	0	0	
qfull_retry_count	0	0	
qfull_retry_interval	1000	1000	In milliseconds
failover	30	60	In seconds
Failover_extension	0	0	In seconds
recovery_attempts	5	5	
class2_enable	0	0	
Fca_heartbeat	0	0	
reset_glm	0	0	
timeout_reset_enable	0	0	
busy_retry_delay	100	100	In milliseconds, 10 milliseconds resolution
link_recovery_delay	1000	1000	The default is 100 in the explanation but it comes set at this value in milliseconds
scsi_probe_delay	500	5000	In milliseconds, 10 milliseconds resolution
def_hba_binding	fcaw*	com	Non Binding use fcaw*, binding use nonjni
fca_verbose	1	1	

JNI FCI-1063 (Supported up to ALL Sonoran 4 releases)

Component Settings

ITEM	Default	Solaris	Comments
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/kernel/drv/fca-pci.conf			
scsi_initiator_id	0x7d	0x7d	The default is none in the explanation but it comes set at this value
fca_nport	0	0/1	Settings: 0 = Loop 1= Fabric
public_loop	0	0	
target_controllers	126	126	
ip_disable	1	1	
ip_compliant	0	0	
qfull_retry_count	0	0	
qfull_retry_interval	1000	1000	in milliseconds
failover	30	60	in seconds
failover_extension	0	0	in seconds
recovery_attempts	5	5	
class2_enable	0	0	
fca_heartbeat	0	0	
reset_glm	0	0	
timeout_reset_enable	0	0	
busy_retry_delay	100	100	in milliseconds, 10 milliseconds resolution
link_recovery_delay	1000	1000	The default is 100 in the explanation but it comes set at this value in milliseconds
scsi_probe_delay	500	5000	in milliseconds, 10 milliseconds resolution
def_hba_binding	fca-pci*	com	Non Binding use fcaw*, binding use nonjni
fca_verbose	1	1	

JNI FCE-1063/JNI FCE-6410/JNI FCE2-6412 (FCE-1063 Supported up to ALL Sonoran 4 releases)

Component Settings

ITEM	Default	Solaris	Comments
/kernel/drv/jnic.conf			
FcLoopEnabled	1	com	0=Non Loop, 1=Loop
FcFabricEnabled	1	com	0=Non Fabric, 1=Fabric
FcPortCfgEnable	1	com	0=Port Reconfiguration Not Required, 1=Port Reconfiguration Required
FcEngHeartbeatInterval	5	5	In seconds
FcLrrTimeout	100	100	In milliseconds
FcLinkUpRecoveryTime	1000	1000	In milliseconds
BusyRetryDelay	5000	5000	In milliseconds
FailoverDelay	30	60	Says 0 but instead is set to 30 by default. In seconds
TimeoutResetEnable	0	0	
QfullRetryCount	5	5	
QfullRetryDelay	5000	5000	In milliseconds
IoRecoveryDelay	50	50	In milliseconds
JniCreationDelay	5	10	In seconds
FlogiRetryCount	3	3	

PlogiRetryCount	5	5	
FcEmldEndTcbTimeCount	1533	1533	
def_hba_bindings	jnic*	jnic*	
target_throttle	256	256	Default throttle for all targets
lun_throttle	64	64	Default throttle for all LUNS
targetX_throttle	256	256	Specific throttle for targetX
targetX_lun_throttle	64	64	Default throttle for all targetX LUNS
targetX_lunY_throttle	64	64	Specific throttle for targetX LUN
automap	0	com	Set to 0 for persistence binding and 1 for auto mapping

LSI 40909 (Supported up to Mojave 1 for W2K and Mojave 2 for Solaris 2.8)

ITEM	Default	NT	W2K	Solaris	LINUX	IRIX	Netware	AIX	HP-UX
O/S REGISTRY SETTINGS									
(HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→SYMMPI→Parameters→Device) under DriverParameter variable (note: DriverParameter is of type REG_SZ and the following parameters are added to the DriverParameter string. Do not create a separate key for each of the parameters.)									
DisableRescan	0		1						
ResetType	0		0 – hub 1 – switch						
O/S REGISTRY SETTINGS									
(HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→Disk)									
TimeOutValue (REG_DWORD)	0x3C		0x78						

LSI 40919O/44929O/7004G2-LC/7x02XP-LC

ITEM	Default	NT	W2K	W2K3	Solaris	LINUX	Netware	AIX	MPRAS
BIOS SETTINGS									
Link Configuration	Auto	Auto	Auto	Auto		Auto			
Topology Configuration	Auto	Auto	Auto	Auto		*1			
Multi Pathing	No	Yes	Yes	Yes		Yes			
Persistent ID Type	WWN	WWN	WWN	WWN		WWN			
Hard ALPA	--	--	--	--		--			
GLOBAL PROPERTIES									
Pause When Boot Alert Displayed	No	No	No	No		No			
Boot Information Display Mode	Verbose	Verbose	Verbose	Verbose		Verbose			
Video Mode	Color	Color	Color	Color		Color			
Support Interrupt	Hook interrupt, the Default	Hook interrupt, the Default	Hook interrupt, the Default	Hook interrupt, the Default		Hook interrupt, the Default			

*1 Auto – Loop or with Sanboz2 switch, NL_Port – Brocade switch (PTR66587)

ITEM	Default	NT	W2K	W2K3	Solaris	LINUX	Netware	AIX	HP-UX
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O/S REGISTRY SETTINGS									
(HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→SYMMPI→Parameters→Device) under DriverParameter variable (note: DriverParameter is of type REG_SZ and the following parameters are added to the DriverParameter string. Do not create a separate key for each of the parameters.)									
DisableRescan (All Sonoran 4 releases and earlier)	0	N/A	1	1					
ResetType (All Sonoran 4 releases and earlier)	0	0 – Loop 1 - Switch	0 – Loop 1 - Switch	0 – Loop 1 - Switch					
ResetType (Yuma 1.0 and later)	0	N/A	1 – Cluster	1 – Cluster					
NoBoardReset	0	1	1	1					
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→SYMMPI→Parameters→Device)									
LargeLuns (REG_DWORD)	1	1	N/A	N/A					
MaximumSGLList (REG_DWORD)	0x21	0xff	0xff	0xff					
O/S REGISTRY SETTINGS									
(HKEY_LOCAL_MACHINE→System→CurrentControlSet→Services→Disk)									
TimeoutValue (REG_DWORD)	0x3C	0x78	0x78	0x78					
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE→SYSTEM→CurrentControlSet→Services→rdacdisk→parameters)									
DisableLunRebalance (REG_DWORD) <i>Only applies to Cluster configuration.</i> Yuma 1.0 and Later.	0x00	N/A	0x03	0x03					
/kernel/drv/itmpt.conf									
scsi-initiator-id	7			7					
symFlags	0			0					
scsi-options	0x3fe8			0x3fe8					
iti-scsi-options	0xfd			0xfd					
scsi-reset-delay	250			250					
scsi-watchdog-tick	5			5					
max-queue-depth	32			32					
symDebugFlags	0			0					
on-bus-timer	1000			1000					
coalesce-count	0			0					
coalesce-time	0			0					

McData Intrepid 6064/6140

No modification to the factory default settings is needed.

QLOGIC QL2100 (Supported up to Viking 3)

ITEM	Default	NT	W2K	Solaris	LINUX	IRIX	Netware	AIX	MPRAS
BIOS SETTINGS									
HOST ADAPTER SETTINGS									
Host Adapter BIOS	Disabled	Disabled							
Frame Size	2048	2048							
Loop Reset Delay	5	8							
Adapter Hard Loop ID	Disabled	Enabled							
Hard Loop ID (should be unique for each HBA)	0	Eg. 22							
ADVANCE ADAPTER SETTINGS									

Execution Throttle	16	255							
Fast Command Posting	Disabled	Enabled							
>4Gbyte Addressing	Disabled	Disabled							
LUNs per Target	8	8							
Enable LIP Reset	No	No							
Enable LIP Full Login	Yes	Yes							
Enable Target Reset	No	Yes							
Login Retry Count	8	30							
Port Down Retry Count	8	30							
Drivers Load RISC Code	Enabled	Enabled							
Enable Database Updates	No	No							
IOCB Allocation	256	256							
Extended Error Logging	Disabled	Disabled							
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE → System → CurrentControlSet → Services → QL2100 → Parameters → Device)									
MaximumSGList (REG_DWORD)	0x21	0xff							
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE → System → CurrentControlSet → Services → Disk)									
TimeoutValue (REG_DWORD)	0x3C	0x78							

QLOGIC QL220x

ITEM	Default	NT	W2K	Solaris	LINUX	IRIX	Netware	AIX	MPRAS
BIOS SETTINGS									
HOST ADAPTER SETTINGS									
Host Adapter BIOS	Disabled	Disabled	Disabled	Disabled	Disabled		Disabled		Disabled
Frame Size	2048	2048	2048	2048	2048		2048		2048
Loop Reset Delay	5	8	8	8	8		8		8
Adapter Hard Loop ID	Disabled	Enabled	Enabled	Enabled	Enabled		Enabled		Enabled
Hard Loop ID (should be unique for each HBA)	0	Eg. 22	Eg. 22	Eg. 22	Eg. 22		Eg. 22		Eg. 22
ADVANCE ADAPTER SETTINGS									
Execution Throttle	16	255	255	255	255		255		255
Fast Command Posting	Disabled	Enabled	Enabled	Enabled	Enabled		Enabled		Enabled
>4Gbyte Addressing	Disabled	Disabled	Disabled	Disabled	Disabled		Disabled		Disabled
LUNs per Target	8	0	0	0	0		32		32
Enable LIP Reset	No	No	No	No	No		No		No
Enable LIP Full Login	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Enable Target Reset	No	Yes	Yes	Yes	Yes		Yes		Yes
Login Retry Count	8	30	30	30	30		30		30
Port Down Retry Count	8	70	70	70	12		30 *1		70
Drivers Load RISC Code	Enabled	Enabled	Enabled	Enabled	Enabled		Enabled		Enabled
Enable Database Updates	No	No	No	No	No		No		No
Disable Database Load	No	No	No	No	No		No		No
IOCB Allocation	256	256	256	256	256		256		256
Extended Error Logging	Disabled	Disabled	Disabled	Disabled	Disabled		Disabled		Disabled
EXTENDED FIRMWARE SETTINGS									
Extended Control Block	Enabled	Enabled	Enabled	Enabled	Enabled		Enabled		
RIO Operation Mode	0	0	0	0	0		0		
Connection Options	0	3	3	3	3		3		

Class 2 Service	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
ACK0	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Fibre Channel Tape Support	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Fibre Channel Confirm	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Command Reference Number	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Read Transfer Ready	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Response Timer	0	0	0	0	0	0	0		
Interrupt Delay Time	0	0	0	0	0	0	0		
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE → System → CurrentControlSet → Services → QL2200 → Parameters → Device)									
LargeLuns (REG_DWORD)	1	1	N/A	N/A	N/A		N/A		
MaximumSGList (REG_DWORD)	0x21	0xff	0xff	N/A	N/A		N/A		
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE → System → CurrentControlSet → Services → Disk)									
TimeoutValue (REG_DWORD)	0x3C	0x78	0x78	N/A	N/A		N/A		
O/S REGISTRY SETTINGS									
(HKEY_LOCAL_MACHINE → System → CurrentControlSet → Services → QL2200 → Parameters → Device) under DriverParameters variable (note: DriverParameters is of type REG_SZ and the following parameters are added to the DriverParameters string. Do not create a separate key for each of the parameters.)									
UseSameNN	1	1	1	N/A	N/A		N/A		
BusChange	1	N/A	0	N/A	N/A		N/A		
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE → SYSTEM → CurrentControlSet → Services → rdacdisk → parameters)									
DisableLunRebalance (REG_DWORD) <i>Only applies to Cluster configuration. Yuma 1.0 and Later</i>	0x00	N/A	0x03	0x03					
SuSE 7.3 specific modifications									
<ol style="list-style-type: none"> Offset 0x11 in the Linux region (6) of the array controller's NVSRAM must be changed from the default of 0x20 to 0x7f. The following can be run from the script engine. <ul style="list-style-type: none"> Set controller[a] HOSTNVSRAMByte[6,0x11]=0x7f; Set controller[b] HOSTNVSRAMByte[6,0x11]=0x7f; The Qlogic driver source must be modified to reflect the symbolic link used by SuSE. <ol style="list-style-type: none"> a) vi makefile b) find OSVER=linux-2.4 to OSVER=linux c) Save and quit 									

*1 – Downloading RAID controller firmware with I/Os **may not** work with this value set to **30** but it was tested to work with **70**.

QLOGIC QL2300/QL2310

ITEM	Default	NT	W2K	W2K3	Solaris	LINUX	Netware	AIX	HP-UX
BIOS SETTINGS									
HOST ADAPTER SETTINGS									
Host Adapter BIOS	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Frame Size	2048	2048	2048	2048	2048	2048	2048		
Loop Reset Delay	5	8	8	8	8	8	8		
Adapter Hard Loop ID – (only recommended for arbitrated loop topology).	Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled		
Hard Loop ID (should be unique for each HBA) – (only recommended for arbitrated loop topology).	0	Eg. 22							
Spinup Delay (1.29 and later)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		

ADVANCE ADAPTER SETTINGS								
Execution Throttle	16	255	255	255	255	255	255	
Fast Command Posting (1.24 and earlier)	Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	
>4Gbyte Addressing	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	
LUNs per Target	8	0	0	0	0	0	32	
Enable LIP Reset	0	No	No	No	No	No	No	
Enable LIP Full Login	1	Yes	Yes	Yes	Yes	Yes	Yes	
Enable Target Reset	0	Yes	Yes	Yes	Yes	Yes	Yes	
Login Retry Count	8	30	30	30	30	30	30	
Port Down Retry Count (Sonoran 4 and earlier)	8	70	70	70	70	12	70	
Port Down Retry Count (Yuma [prior to driver 7.00.03])	8	70	70	70	70	12 – QL FO 70 – LSI MPP	70	
Port Down Retry Count (Yuma and higher [driver 7.00.03 and above])	8	70	70	70	70	12 – QL FO 35 – LSI MPP	70	
Port Down Retry Count (Yuma and higher)	8	70	70	70	70	12 – QL FO 70 – LSI MPP	70	
Link Down Timeout (1.34 and higher) (Sonoran 4 and earlier)	30	N/A	60	60	60	30	60	
Link Down Timeout (1.34 and higher) (Yuma and higher)	30	N/A	60	60	60	30 – QL FO 60 – LSI MPP	60	
Drivers Load RISC Code (1.24 and earlier)	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	
Enable Database Updates (1.24 and earlier)	No	No	No	No	No	No	No	
Disable Database Load (1.24 and earlier)	No	No	No	No	No	No	No	
IOCB Allocation	256	256	256	256	256	256	256	
Extended Error Logging	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	
EXTENDED FIRMWARE SETTINGS								
Extended Control Block (1.24 and earlier)	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	
RIO Operation Mode	0	0	0	0	0	0	0	
Connection Options	2	2	2	2	2	2	2	
Class 2 Service (1.24 and earlier)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	
ACK0 (1.24 and earlier)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	
Fibre Channel Tape Support	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	
Fibre Channel Confirm (1.24 and earlier)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	
Command Reference Number (1.24 and earlier)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	
Read Transfer Ready (1.24 and earlier)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	
Response Timer (1.24 and earlier)	0	0	0	0	0	0	0	
Interrupt Delay Timer	0	0	0	0	0	0	0	
Data Rate	0	2	2	2	2	2	2	
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE → System → CurrentControlSet → Services → QL2300 → Parameters → Device)								
LargeLuns (REG_DWORD)	1	1	N/A	N/A	N/A	N/A	N/A	
MaximumSGLList (REG_DWORD)	0x21	0xff	0xff	0xff	N/A	N/A	N/A	
O/S REGISTRY SETTINGS								
(HKEY_LOCAL_MACHINE → System → CurrentControlSet → Services → QL2300 → Parameters → Device) under DriverParameters variable (note: DriverParameters is of type REG_SZ and the following parameters are added to the DriverParameters string. Do not create a separate key for each of the parameters.)								
UseSameNN	1	1	1	1	N/A	N/A	N/A	
BusChange (All Sonoran 4 releases and earlier)	1	N/A	0	0	N/A	N/A	N/A	
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE → System → CurrentControlSet → Services → Disk)								
TimeoutValue (REG_DWORD)	0x3C	0x78	0x78	0x78	N/A	N/A	N/A	

REGISTRY SETTINGS (HKEY_LOCAL_MACHINE→SYSTEM→CurrentControlSet→Services→rdacdisk→parameters)									
DisableLunRebalance (REG_DWORD) <i>Only applies to Cluster configuration. Yuma 1.0 and Later</i>	0x00	N/A	0x03	0x03					
SuSE 7.3 specific modifications <ol style="list-style-type: none"> Offset 0x11 in the Linux region (6) of the array controller's NVSRAM must be changed from the default of 0x20 to 0x7f. The following can be run from the script engine. <ul style="list-style-type: none"> Set controller[a] HOSTNVSRAMByte[6,0x11]=0x7f; Set controller[b] HOSTNVSRAMByte[6,0x11]=0x7f; The Qlogic driver source must be modified to reflect the symbolic link used by SuSE. <ol style="list-style-type: none"> vi makefile find OSVER and change it from OSVER=linux-2.4 to OSVER=linux Save and quit 									
Red Hat Linux Advanced Server 2.1 / SuSE Linux Enterprise Server 8.0 (6.5.60 series driver) (6.x series failover driver [with no RDAC] only) The following should be appended to the HBA driver's option string in /etc/modules.conf: ql2xretrycount=60 ql2xsuspendcount=40									
RedHat Linux Advanced Server 3.0 & 4.0 / SuSE Linux Enterprise Server 8.0 & 9.0 (7.x series non-failover driver [and above] with RDAC) RDAC installation will automatically append the following to /etc/modules.conf: ql2xretrycount=3									

QLOGIC QL234x

ITEM	Default	NT	W2K	W2K3	Solaris	LINUX	Netware	AIX	HP-UX
BIOS SETTINGS									
HOST ADAPTER SETTINGS									
Host Adapter BIOS	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Frame Size	2048	2048	2048	2048	2048	2048	2048		
Loop Reset Delay	5	8	8	8	8	8	8		
Adapter Hard Loop ID – (only recommended for arbitrated loop topology).	Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled		
Hard Loop ID (should be unique for each HBA) – (only recommended for arbitrated loop topology).	0	Eg. 22							
Spinup Delay	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Connect Options	2	2	2	2	2	2	2		
Fibre Channel Tape Support	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Data Rate	2	2	2	2	2	2	2		
ADVANCE ADAPTER SETTINGS									
Execution Throttle	16	255	255	255	255	255	255		
LUNs per Target	8	0	0	0	0	0	32		
Enable LIP Reset	No	No	No	No	No	No	No		
Enable LIP Full Login	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Enable Target Reset	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Login Retry Count	8	30	30	30	30	30	30		
Port Down Retry Count (Sonoran 4 and earlier)	8	70	70	70	70	12	70		

Port Down Retry Count (Yuma [prior to driver 7.00.03])	8	70	70	70	70	12 – QL FO 70 – LSI MPP	70		
Port Down Retry Count (Yuma and higher [driver 7.00.03 and above])	8	70	70	70	70	12 – QL FO 35 – LSI MPP	70		
Link Down Timeout (1.34 and higher) (Sonoran 4 and earlier)	30	N/A	60	60	60	60	60		
Link Down Timeout (1.34 and higher) (Yuma and higher)	30	N/A	60	60	60	30 – QL FO 60 – LSI MPP	60		
Extended Error Logging	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
RIO Operation Mode	0	0	0	0	0	0	0		
Interrupt Delay Timer	0	0	0	0	0	0	0		
IOCB Allocation (1.34 and Earlier)	256	256	256	256	256	256	256		
>4Gbyte Addressing (1.34 and Earlier)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Drivers Load RISC Code (1.24 and earlier)	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled		
Enable Database Updates (1.24 and earlier)	No	No	No	No	No	No	No		
Disable Database Load (1.24 and earlier)	No	No	No	No	No	No	No		
Fast Command Posting (1.24 and earlier)	Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled		
EXTENDED FIRMWARE SETTINGS (1.34 and Earlier)									
Extended Control Block (1.24 and earlier)	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled		
RIO Operation Mode (1.34 and earlier)	0	0	0	0	0	0	0		
Connection Options (1.34 and earlier)	2	2	2	2	2	2	2		
Class 2 Service(1.24 and earlier)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
ACK0 (1.24 and earlier)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Fibre Channel Tape Support (1.34 and earlier)	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Fibre Channel Confirm (1.24 and earlier)	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Command Reference Number (1.24 and earlier)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Read Transfer Ready (1.24 and earlier)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled		
Response Timer (1.24 and earlier)	0	0	0	0	0	0	0		
Interrupt Delay Timer (1.34 and earlier)	0	0	0	0	0	0	0		
Data Rate (1.34 and earlier)	2	2	2	2	2	2	2		
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE →System →CurrentControlSet →Services →QL2300 →Parameters →Device)									
LargeLuns (REG_DWORD)	1	1	N/A	N/A	N/A	N/A	N/A		
MaximumSGLList (REG_DWORD)	0x21	0xff	0xff	0xff	N/A	N/A	N/A		
O/S REGISTRY SETTINGS									
(HKEY_LOCAL_MACHINE →System →CurrentControlSet →Services →QL2300 →Parameters →Device) under DriverParameters variable (note: DriverParameters is of type REG_SZ and the following parameters are added to the DriverParameters string. Do not create a separate key for each of the parameters.)									
UseSameNN	1	1	1	1	N/A	N/A	N/A		
BusChange (All Sonoran 4 releases and earlier)	1	N/A	0	0	N/A	N/A	N/A		
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE →System →CurrentControlSet →Services →Disk)									
TimeoutValue (REG_DWORD)	0x3C	0x78	0x78	0x78	N/A	N/A	N/A		
REGISTRY SETTINGS (HKEY_LOCAL_MACHINE →SYSTEM →CurrentControlSet →Services →rdacdisk →parameters)									
DisableLunRebalance (REG_DWORD) <i>Only applies to Cluster configuration. Yuma 1.0 and Later</i>	0x00	N/A	0x03	0x03					

SuSE 7.3 specific modifications

1. **Offset 0x11 in the Linux region (6) of the array controller's NVSRAM must be changed from the default of 0x20 to 0x7f. The following can be run from the script engine.**
 Set controller[a] HOSTNVSRAMByte[6,0x11]=0x7f;
 Set controller[b] HOSTNVSRAMByte[6,0x11]=0x7f;
2. **The Qlogic driver source must be modified to reflect the symbolic link used by SuSE.**
 - a. **vi makefile**
 - b. **find OSVER and change it from OSVER=linux-2.4 to OSVER=linux**
 - c. **Save and quit**

Red Hat Linux Advanced Server 2.1 / SuSE Linux Enterprise Server 8.0 (6.x series failover driver [with no RDAC] only)

The following should be appended to the HBA driver's option string in /etc/modules.conf: ql2xretrycount=60 ql2xsuspendcount=40

RedHat Linux Advanced Server 3.0 & 4.0 / SuSE Linux Enterprise Server 8.0 & 9.0 (7.x series non-failover driver [and above] with RDAC)

RDAC installation will automatically append the following to /etc/modules.conf: ql2xretrycount=3

QLOGIC QL2340/QL2342 QL2300/QL2310 For Solaris**Component Settings**

ITEM	Default	Solaris	Comments
/kernel/drv/qla2300.conf (Driver: 4.15.02)			
max-frame-length	2048	2048	
execution-throttle	16	255	
login-retry-count	8	30	
enable-adapter-hard-loop-ID – (only recommended for arbitrated loop topology).	0	1	
adapter-hard-loop-ID – (only recommended for arbitrated loop topology).	0	125	
enable-LIP-reset	0	0	
enable-LIP-full-login	1	1	
enable-target-reset	0	1	
reset-delay	5	8	
port-down-retry-count	8	70	
port-down-retry-delay	0	0	
maximum-luns-per-target	8	0	
connection-options	2	2	
fc-tape	1	0	
fc-data-rate	2	2	
pci-latency-timer	0x40	0x40	
pci-x-max-memory-read-byte-count	0	0	
link-down-error	1	1	
link-down-timeout	60	60	
persistent-binding-configuration	0	0	
persistent-binding-by-port-ID	0	0	
fast-error-reporting	0	0	
extended-logging	0	0	

queue-full-retry-count	16	16	
queue-full-retry-delay	2	2	
security-protocols	0	0	
FDMI-support	0	0	

Example of IOP changes appended to /kernel/drv/jnic146x.conf

IOP Recommended Changes

```
hba1-max-frame-length=2048;
hba1-execution-throttle=255;
hba1-login-retry-count=30;
hba1-enable-adapter-hard-loop-ID=1;
hba1-adapter-hard-loop-ID=125;
hba1-enable-target-reset=1;
hba1-reset-delay=8;
hba1-port-down-retry-count=70;
hba1-maximum-luns-per-target=0;
hba1-fc-tape=0;
```

```
hba3-max-frame-length=2048;
hba3-execution-throttle=255;
hba3-login-retry-count=30;
hba3-enable-adapter-hard-loop-ID=1;
hba3-adapter-hard-loop-ID=125;
hba3-enable-target-reset=1;
hba3-reset-delay=8;
hba3-port-down-retry-count=70;
hba3-maximum-luns-per-target=0;
hba3-fc-tape=0;
```

#Bindings

```
hba1-SCSI-target-id-0-fibre-channel-port-name="200600a0b80ccb2b"; #5884-15-16-A
hba1-SCSI-target-id-1-fibre-channel-port-name="200700a0b80ccb2b"; #5884-15-16-B
hba1-SCSI-target-id-2-fibre-channel-port-name="200400a0b80ce0b8"; #5884-13-14-A
hba1-SCSI-target-id-3-fibre-channel-port-name="200500a0b80ce0b8"; #5884-13-14-B
```

```
hba3-SCSI-target-id-0-fibre-channel-port-name="200600a0b80ccb2b"; #5884-15-16-A
hba3-SCSI-target-id-1-fibre-channel-port-name="200700a0b80ccb2b"; #5884-15-16-B
hba3-SCSI-target-id-2-fibre-channel-port-name="200400a0b80ce0b8"; #5884-13-14-A
hba3-SCSI-target-id-3-fibre-channel-port-name="200500a0b80ce0b8"; #5884-13-14-B
```

QLogic SANBox2-8/SANBox2-16

Note 1: The Frame Interleaving flag is set on a port basis. If you're running in a heterogeneous host environment, please enable this flag on ports that are affected.

Note 2: Follow these steps to check and to change the settings:-

- 1) Use the "show config port <port #>" command to display the port parameters.
- 2) Use the "admin start" command to get into administrator mode followed by "config edit" command. For each port that needs to have the parameters modified, use "set config port <port #>" command and change the appropriate parameter(s).

Items	Default	All LSI & JNI HBAs	Others
AdminState	Online	Online	Online
LinkSpeed	Auto	Auto	Auto
PortType	GL	GL	GL
TLPortMode	TLTargetMode	TLTargetMode	TLTargetMode
ISLSecurity	Any	Any	Any
SymbolicName	Port0	Port0	Port0
ALFairness	False	False	False
ARB_FF	False	False	False
InteropCredit	0	0	0
ExtCredit	0	0	0
FANEnable	True	True	True
LCFEnable	False	False	False
MFSEnable (True/False=Enable/Disable Frame Interleaving)	True	False	True
MFS_TOV	10	10	10
MSEnable	True	True	True
NoClose	False	False	False
IOStreamGuard	Disabled	Disabled	Disabled
VIEnable	False	False	False
CheckAlps	False	False	False