DLA Storage Appliance Deployment in NAS/DAS Environment

Overview:

The purpose of this instructional guide is to assist in the step-by-step configuration of either a Bosch DLA 1200 or 1400 storage appliance in a classic NAS or DAS configuration. *Non VRM environment

WARNING:

Configuring the DLA Storage Appliance for a classic DAS/NAS non-VRM deployment will cause the following to take effect:

- A 1:1 IP to LUN ratio
- 2TB storage limitation on all devices recording to the appliance.

Incorrect configuration of VHD/LUNS can result in the following:

- Minimum retention times may not be met if LUN is to configured too small
- Maximum retention times may exceed specifications if LUNS are too large
- Storage on the DLA may be under utilized or not utilized at all
- Manually correcting any of these situations in all cases results in loss of all recorded video on the LUN/VHD involved

Objectives:

- Accessing the DLA
- Disabling the pre-installed and licensed VRM service
- Stopping the iSCSI Target service
- Destroying the preconfigured VHDs
- Configure new VHDs based on storage calculations
- Assigning Encoders to their VHD/LUNs

STEP 1: Accessing the DLA

Connect the DLA and your technicians PC/Laptop to a switch via a CAT5 or better cable. If no switch is available for configuration you may connect directly to the DLA via a CAT5 or better network cable. If your PCs NIC does not support auto detection you can connect using a crossover cable. • The factory default network configuration of the DLA Storage Appliance is as follows NIC1: 10.10.10.10 *Mask*: 255.0.0.0 NIC2: 10.10.10.11 *Mask*: 255.0.0.0

Change the IP address of the PC that you are working from to 10.10.10.12 *Mask* 255.0.0.0, or an available IP address if your network is configured in a non-routable A Class address. Once you have made these changes to your PC use the "Remote Desktop Connection" application located at "Start > All Programs > Accessories > Remote Desktop Connection".



*If you do not current have the "Remote Desktop Connection" software installed on your PC, it can be downloaded from www.microsoft.com

Bosch Security Systems, Inc. 800.289.0096 www.boschsecurity.us



Once the "Remote Desktop Application" is open enter the default IP address of the DLA and select the "Connect" button.







STEP 2: Disabling the pre-installed and licensed VRM Server Service

Once logged into the operating system, navigate to "Start > Administrative Tools > Services".



Once you have the "Services" console open find the "Video Recording Manager" service.

- Double click the service icon to open the service properties console
- From the drop down set the service to "Manual"
- "Stop" the service

Startup type:	Automatic	-
Help me configur	Automatic (Delayed Start) Automatic Manual	
Service status:	Disabled Starteo	
Stort	Stop Paris	e Besime



STEP 3: Stopping the Microsoft iSCSI Software Target Service

Before you can destroy the factory configured VHD/LUNs you will have to stop the "Microsoft iSCSI Software Target" service. Locate the service in the "Services" console and either highlight and select the stop button in the top left hand corner, or right click the service and select stop. Later in this guide you will need to restart the service so you may want to leave the "Services" console open but minimized.

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Microsoft iSCSI Software Target	Enables thi	Started	Automatic
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STEP 4: Destroying preconfigured VHDs

Before you can configure multiple VHDs/ LUNS for 1:1 ratio DAS-NAS recording you must first free up all existing storage space by destroying the preconfigured VHDs. Navigate to the "Server Manager" console, from here navigate to "Storage > Microsoft iSCSI Software Target > Devices"



With the "Devices" icon highlighted, you should see the default Virtual Disks in the right side of the management pane. With the storage drive (D:\) highlighted, right click on each VHD and select "Delete Virtual Disk".

Devices					
Virtual Disk Index	Description		Size	Status	Access By
Virtual Disk 0	D:\VHD01.vhd with	- 1040076 MD	1 00 TP	dle	TG0
Virtual Disk 1	D:\VHD02.vhd w	Create Virtua	al Disk	dle	TG0
Virtual Disk 2	D:\VHD03.vhd w	Extend Virtu	al Disk	dle	TGO
Virtual Disk 3	X:\VHD04.vhd wi	Delete Virtua	l Disk	dle	TGO
		In gort Virtua	al Disk		
		Disable			

Once you have deleted all the VHDs you will now have to delete the actual VHD files. Navigate to "Computer" and open the storage drive(s) (D:\). You should see the actual VHD files of the Virtual Disks you just deleted from the TGO iSCSI target. Highlight all VHD files, right click and select "Delete".

Name -	- 0	Date modified -	Type	- Size	- Tags	-
VHD01.v	vhd :	3/17/2011 10:17	VHD File	1,073,7	4	
VHD0	Send To	011 6:06 PM	VHD File	1,073,7	4	
<u>VHD0</u> -	Cut Copy	011 4:15 PM	VHD File	674,225	i,	
1	Create Shortout	t				
	Delete					
	Restame					
	Properties					

Reopen the "Services" console and restart the "Microsoft iSCSI Software Target" service.



STEP 5: Creating new VHD/LUNs based on storage calculations

Prior to creating individual NAS/DAS targets for single device recording you need to perform basic storage calculations based on the following:

- FPS
- Resolution
- Min and Max bit rates for compression and level of activity
- Recording schedule to include alarms and or quiet time
- Number of cameras per IP device
- Desired retention time

Example: A 1600XFM4 Encoder Module with 4 cameras connected, recording at 4 CIF/H.264 15FPS, Max and Target bit rates set to 1550 and 805 respectively, 80 quiet hours a week, and a retention time of 15 days would need a VHD / LUN of 813 GB.

• Once you have performed the required calculations you will navigate to the "Server Management" console. From there navigate to "Storage > Microsoft iSCSI Software Target > iSCSI Targets". There you should see the default iSCSI target, right click the iSCSI target and select "Create Virtual Disk for iSCSI Target"

Farget Name	Description	Status
Boschlup1	ReedbDiek1	Idle
0	Create ISCSI Target	
D	elete iSCSI Target	
C	Preate Virtual Disk for iSCSI Target	
A	dd Existing Virtual Disk to iSCSI Target	
R	temove Virtual Disk From iSCSI Target	
D	visable	
E	nable	
R	tefresh	
P	roperties	
н	ielp	

 The "Create virtual Disk Wizard" should open, select "Next"

- Enter the path and the name of the VHD / LUN you want to create.
- Example: D:\BoschLun1.VHD
- You must use "VHD" as the file extension!
- Select "Next"



Welcome to the Create Virtual Disk Wizard

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- You will need to enter the size of the VHD / LUN you want to create Enter the size of the drive in MBs that you want. Capacity is in TB.
- Multiply by 1024 once to get a GB number
- Multiply by 1024 twice to get a TB number
- Select the "Next" button
- You will now need to enter a description for the VHD
- Example: LUN1.VHD
- You must use "VHD" as the file extension!
- Select "Next"

- Select the "Finish" button on the wizard
- You should now see the VHD/ LUN you created on the right hand side of the console











STEP 6: Assigning Encoders to the VHD/LUNs

To access general recording menus from within Configuration Manager, select the desired encoder(s), then select the "Recording / Recording Management" submenu as shown below.

General Encoder	Recor	rding	Alarm Interf	faces Network Service	
Recording Manage	ement	Reci	ording Profiles	Recording Retention Time	Recording Scheduler
Recording	Man	age	ment		

Once you have opened the encoders recording menu you will see the screen shown below which gives you three options, select the option shown:

Recordings manually managed. This will allow you to perform iSCSI and Local Media "Edge" recording

 Recordings m 	anually managed		1.000
Recording 1 r	nanaged by extern	al VRM	
Recording 1	managed by extern	al VRM - Recording 2 used for ANR	
cording media			
cording media	al Media		

To scan for the desired iSCSI device, use the "iSCSI Media" tab and type in the IP address of the iSCSI device. • Click the "Read" button and all LUNS of the scanned device should appear in the menu window as shown below.

SCSI Media Loca	al Media			
iSCSI IP address	192.168.1.55	Password		Read
		ST 19		
- IDX 0 - iq	n.1996-04.com.boscl	htraid.sn7059664.00		
-LUN	0 - Size 100000 MB -	Locked by ign 2005-12.com bi	osch:uvrm00075f744e	ce
- LUN	1 - Size 100000 MB -	Not locked		
- LUN	2 - Size 150000 MB -	Locked by ign.2005-12.com.bi	osch:uvm00075f744f	3d
- LUN	3 - Size 80000 MB - I	Not locked		
-LUN	4 - Size 200000 MB -	Not locked		
- LUN	5 - Size 150000 MB -	Not locked		
	0 0 170110110	AT		

Select the LUN specified for the encoder you are working with and click the "Add" button. This will add the LUN to the "Managed storage media" menu.



	LUN 4 - LUN 5 - LUN 6 -	Size 200000 MB - Size 150000 MB - Size 176448 MB -	Not lacked Not lacked Not lacked				
ſ	Managed storage me	dia	- Add	습 Remove			
	Target	Media Type	Size (MB)	Status		Rec. 1	Rec. 2
	192.168.1.55\0\4	iSCSI	200000	Action: add		2	
	Overwrite older record	lings	Recording 1		Recording 2		

Add the device and then choose "Format". Right click the LUN to access this menu, then select "Save".

Target	Media Type	
192.168.1.55	5\0\ iscsi	- 90
22	Format medium	
	Migrate file system	

Once the formatting is finished the encoder should automatically start recording. If the encoder settings such as target/max bit rates, retention times, and recording schedules have not already been set, set them while the storage media is formatting. Further instructions on encoder settings can be found in the "FWM 4.1 1600 Guide Book.pdf" located on your class CD.

