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Dahua N+M on NVR

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Note

1. All NVRs must be the same model and upgraded with the same firmware.
2. All NVRs must be in the same IP segment.
3. When Master NVR fail down and the Slave NVR will take over the task of it and then keep recording, but both of them will lose 90~120s recordings cos the Slave NVR need time to judge if the Master NVR is really offline. Meanwhile, you cannot do playback from any one of them.
4. But when you manually past the task and recordings from Slave NVR to the Master NVR when Master NVR recovered, the Master NVR will start to record and you can do playback from it.

How the N+M works

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N+M Hot Standby

➤ N+M basic concept

- ✓ N----The number of NVR master ;
- ✓ M----The number of NVR slave;
- ✓ When master cash, one slave take over master and start work
- ✓ When master get back, **user can turn slave into standby position manually, user can choose to past back record data in slave at same time ;**
- ✓ N+M can realize NVR secure backup and monitoring system uninterrupted work.

N+M Hot Standby

➤ Real IP

✓ Real IP----master and slave NVR local IP;

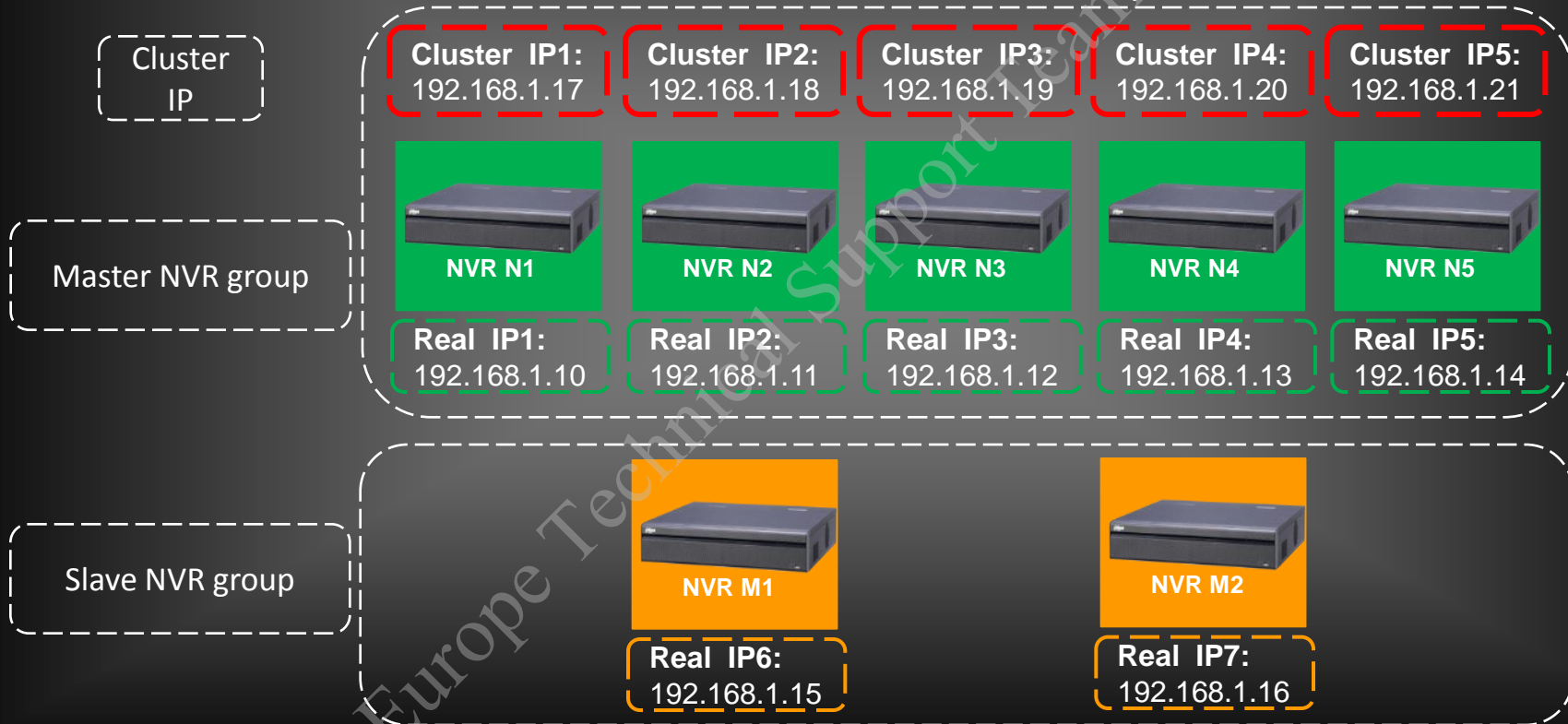
✓ Cluster IP----virtual IP, only on web of Master NVR, user can set this Cluster IP (Note : must be In the same network segment with master and slave and not occupied.)

✓ Each Master NVR have a different Cluster IP .If you want to use a **software (VMS)** to manage the N+M system, you can add the Cluster IP of N pcs Master devices to preview and playback. When one Master NVR crashed, the software will access the Slave NVR to get the realtime preview and playback automatically. But you may failed at the transition about 90s to 120s cos the Master NVR is transfer the task from Master to Slave NVR.

N+M Hot Standby

Cluster IP demo (5+2 mode)

Every master
NVR gets one
cluster IP

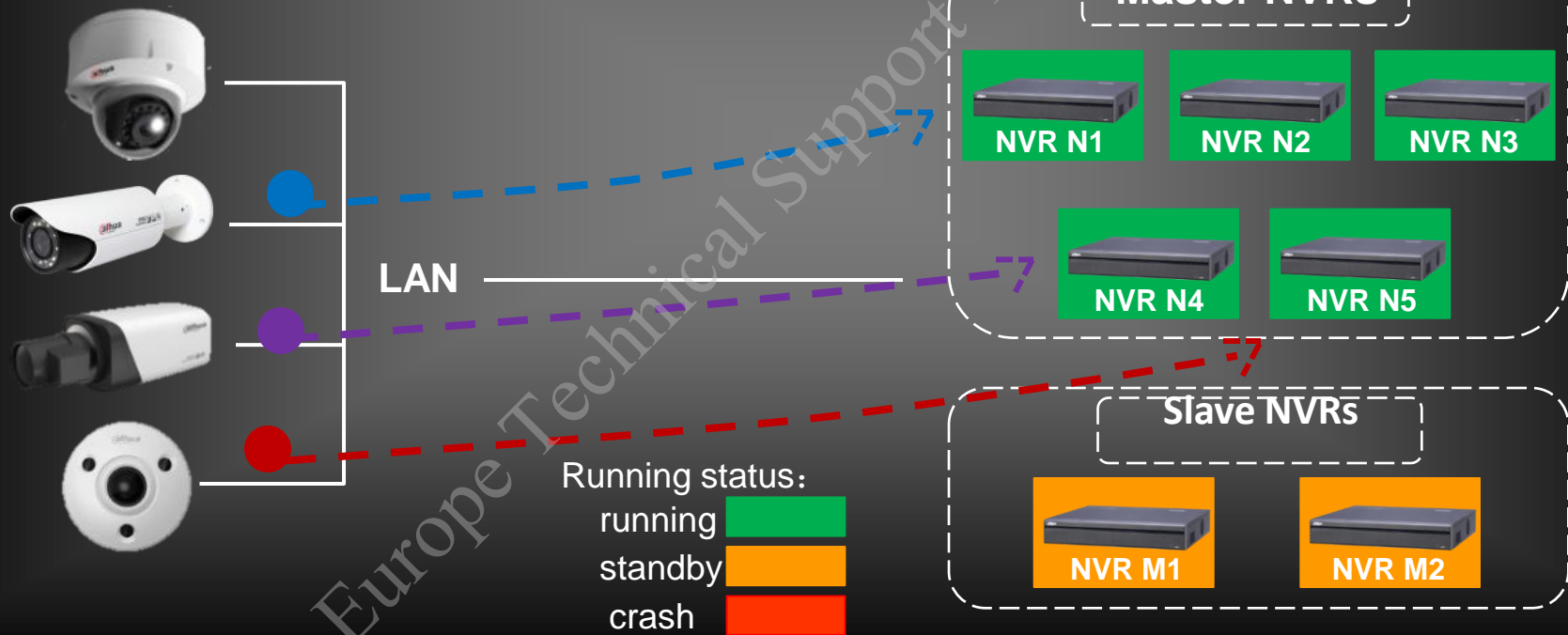


N+M Hot Standby

➤ N+M example (5+2 mode)

1、normal mode

In normal mode, slave stay in standby position

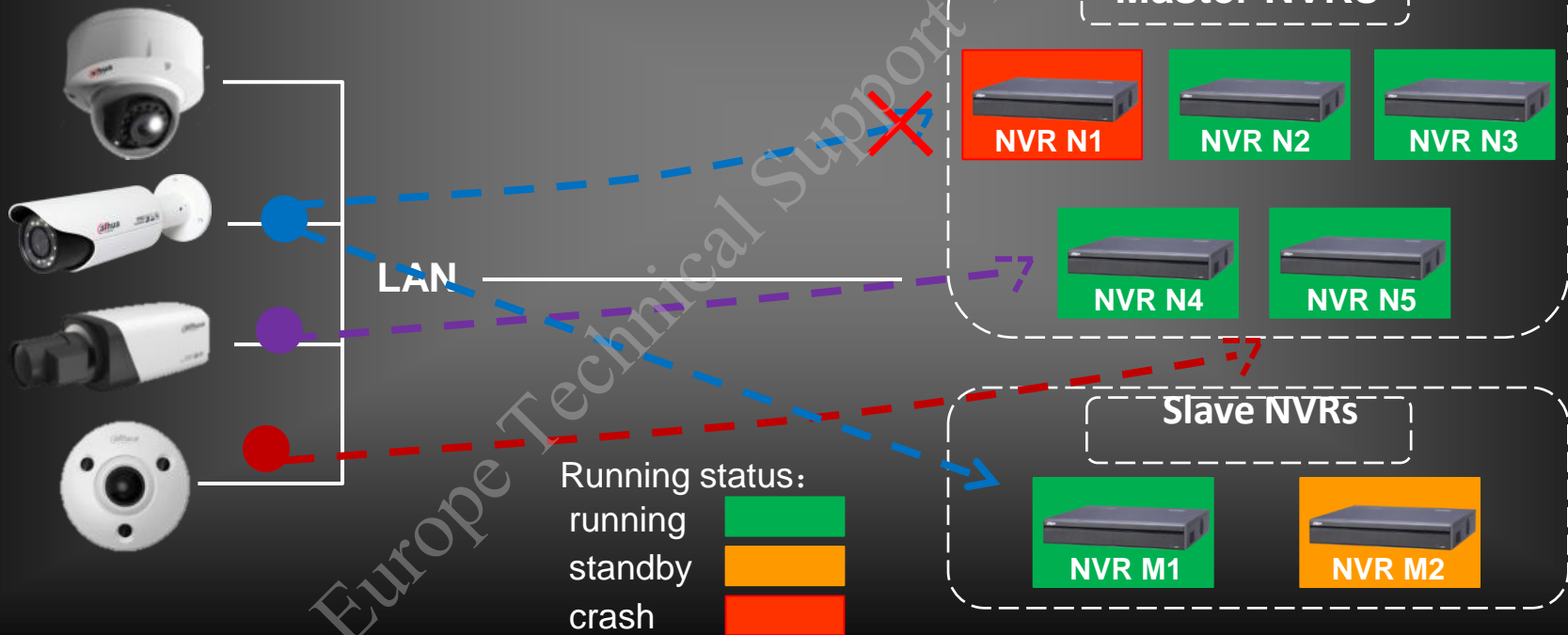


N+M Hot Standby

➤ N+M example (5+2 mode)

2、when one master NVR cashes

When one master cashes, one slave takes over master's job .

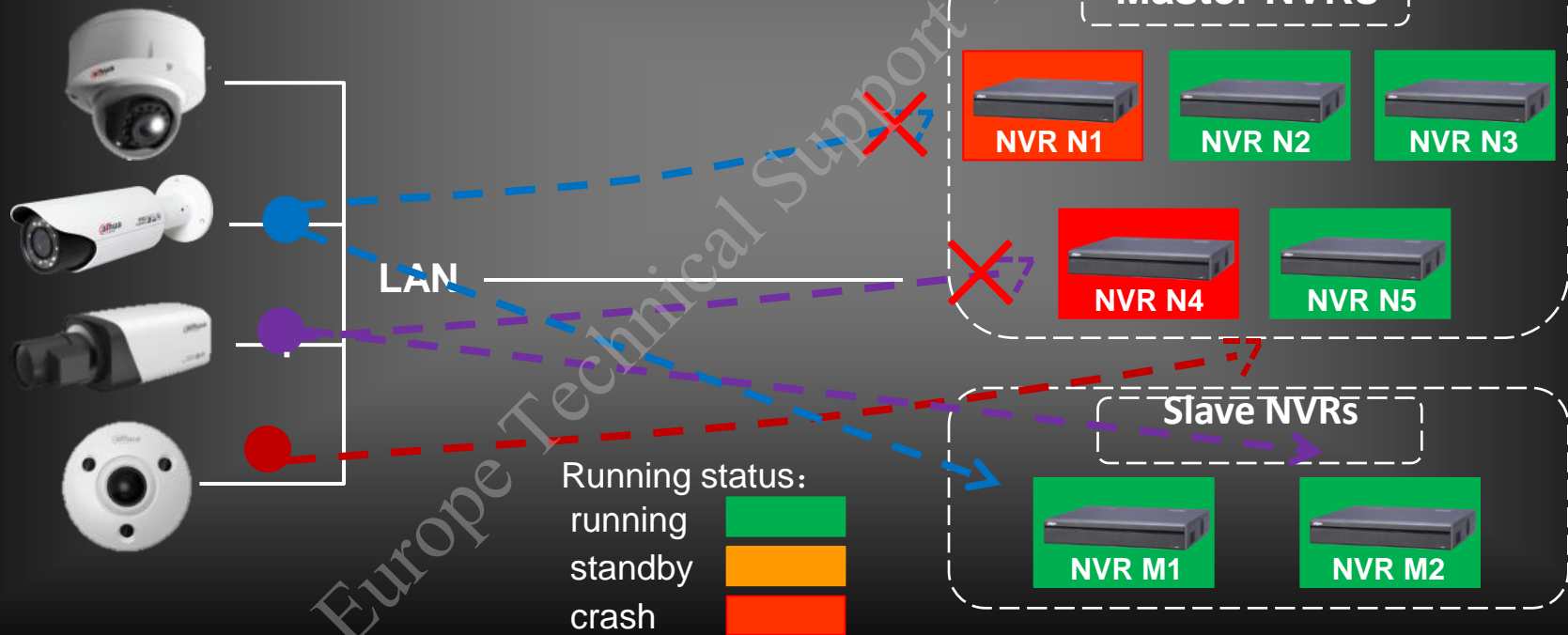


N+M Hot Standby

➤ N+M example (5+2 mode)

3、 when two masters NVR cash

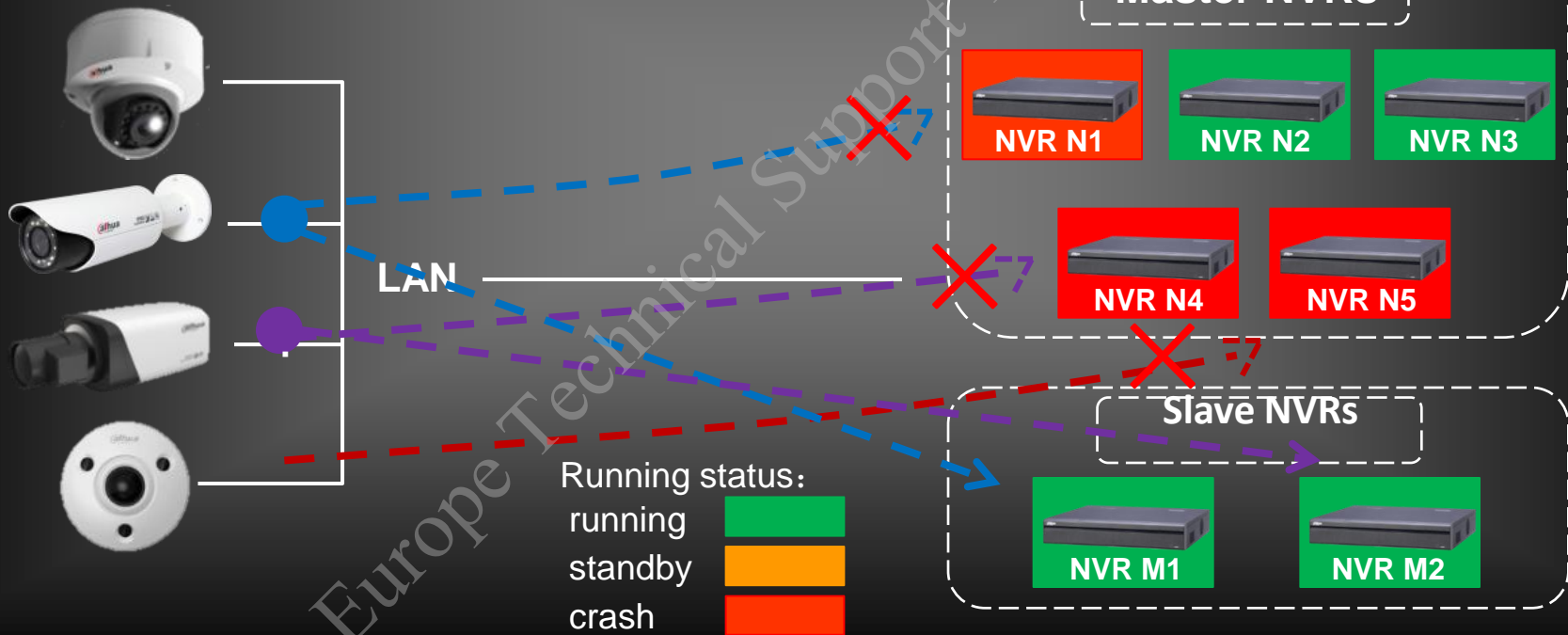
Master N1 cashes, master N4 cashes at the same time,
slave NVRs take over two masters' job .



N+M Hot Standby

➤ N+M example (5+2 mode)

4、 when three masters NVR crash
master N1, master N4 crash , slave M1, M2 take over . If
N5 crash now, no slave can take over N5.



N+M Hot Standby

➤ N+M example (5+2 mode)

5、when master NVR get back

Master N1 crash , M1 take over, master N1 get back, user can choose to turn M1 into standby position, and get N1 back to work , user must load cluster IP or slave NVR's IP to complete this process.



LAN

Running status:

running



standby



crash



Master NVRs



Slave NVRs



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How to Configure the N+M

Take 1+1 for example

- CAMERA
- NETWORK
 - TCP/IP
 - CONNECTION
 - PPPoE
 - DDNS
 - IP FILTER
 - EMAIL
 - FTP
 - UPnP
 - SNMP
 - MULTICAST
 - REGISTER
 - ALARM CENTER
 - HTTPS
- EVENT
- STORAGE
- SYSTEM
- CLUSTER SERVICE

TCP/IP

Network Mode: Multi-address

Default Card: Network Card1

Network Card: Network Card1

IP Version: IPv4

MAC Address: aa . bb . cc . dd . ee . a1

Mode: STATIC DHCP

IP Address: 10 . 15 . 5 . 11

Subnet Mask: 255 . 255 . 0 . 0

Default Gateway: 10 . 15 . 0 . 1

Preferred DNS: 8 . 8 . 8 . 8

Alternate DNS: 8 . 8 . 4 . 4

MTU: 1500

LAN Download

Set Cludter IP

OK Refresh Default

Set Cludter IP

Enable

IP Address: 10 . 15 . 5 . 12

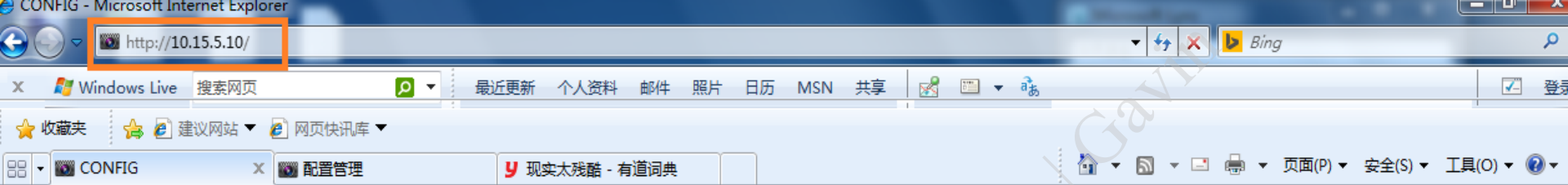
Subnet Mask: 255 . 255 . 0 . 0

Default Gateway: 10 . 15 . 0 . 1

OK Cancel

Enable and save

Step 1: Set the cluster IP in the web of Master NVR.



- WEB SERVICE
- PREVIEW
- PLAYBACK
- ALARM
- SETUP
- INFO
- LOGOUT
- CAMERA
- NETWORK
- EVENT
- STORAGE
- SYSTEM
- CLUSTER SERVICE
- MASTER DEVICE
- SLAVE DEVICE**
- RECORD TRANSFER
- CLUSTER CONTROL
- DCS LOG

SLAVE DEVICE

Manual Add

click "Manual Add", the setting menu will display just like below

give Slave Device a name

Manual Add

Slave Device Name	<input type="text"/>
IP Address	10 . 15 . 5 . 10
Port	37777 (1~65535)
User Name	admin
Password	•••••

Yes No

Attention: slave IP address can't be rewrited, it must be the IP you have load.

Step 2: Add the Slave NVR on the web of it.

MASTER DEVICE

Manual Add

Master Device Name	IP Address	Status	Operation	Delete
[Manual Add Dialog Box]				

Manual Add [X]

Master Device Name: 11

IP Address: 10 . 15 . 5 . 11

Port: 37777 (1~65535)

User Name: admin

Password: ●●●●●

Yes No

Enter master IP Address here

Step 3: Add the Master NVR on the web of Slave NVR.

Cluster Control

Arbitrage IP

Main IP

Ex. IP of PC

Spare IP

OK

Refresh

spare IP is backup of main IP

when you use "1+1" mode, you must set arbitrage IP, the function of arbitrage ip is judging if master device is working.

you can choose one device's ip as arbitrage ip, this device must be in the same net segment with master and slave device

You also can use the IP of PC which in the same IP segment with the NVRs

Step 4: Set a "Arbitrage IP" on the web of Slave NVR.

- CAMERA
- NETWORK
- EVENT
- STORAGE
- SYSTEM
- CLUSTER SERVICE
- MASTER DEVICE
- SLAVE DEVICE
- RECORD TRANSFER
- CLUSTER CONTROL
- DCS LOG

Cluster Control Arbitrage IP

Start Cluster Delete Cluster

after click this icon
, you can see this
interface

Cluster is opening. Please wait...

Step 5: Enable Cluster Control on the web of Slave NVR.

- CAMERA
- NETWORK
- EVENT
- STORAGE
- SYSTEM
- CLUSTER SERVICE
 - MASTER DEVICE
 - SLAVE DEVICE
 - RECORD TRANSFER
 - CLUSTER CONTROL
 - DCS LOG



Cluster Control Arbitrage IP

Start Cluster Delete Cluster

After user start Cluster , the icon "Start Cluster" can't be selected.

MASTER DEVICE

Manual Add

Master Device Name	IP Address	Status	Operation	Delete
11	10.15.5.11	Working		

click "MASTER DEVICE" to check master device status after you start cluster.

> MASTER DEVICE

> SLAVE DEVICE

> RECORD TRANSFER



> CLUSTER CONTROL

> DCS LOG

Step 7: Check the status of Master NVR on the web of Slave NVR, now "Working"

SLAVE DEVICE

Manual Add



Slave Device Name	IP Address	Replace IP	Status	Operation	Delete
10	10.15.5.10		DCS Working Device+Free		

click "SLAVE DEVICE" to check slave device status.

Step 8: Check the status of Slave NVR on the web of it, now "Free".

MASTER DEVICE

Manual Add


Master Device Name	IP Address	Status	Operation	Delete
11	10.15.5.11	Abnormity		

after master device **offline**, you can check it's status in slave NVR's IP, here you can see master device turn "Working" to "**Abnormity**".

Step 9: If the Master NVR disconnected, the status of Master NVR is "Abnormity".

SLAVE DEVICE

Manual Add

Slave Device Name	IP Address	Replace IP	Status	Operation	Delete
10	10.15.5.10	10.15.5.11	DCS Working Device+Using		




check slave device status after master device offline, you can see, slave device status turn "Free" to "Using".

Attention: after master device offline, slave device will cost 90-120 seconds to judge master device status and take over it's work.

Step 10: After about 120s, the Slave NVR take over the task of Master slave and the status is "Using" now.

MASTER DEVICE

Manual Add

Master Device Name	IP Address	Status	Operation	Delete
11	10.15.5.11	Backup	 	

Master NVR online again
Master NVR web



if master device back online, you can see a tick in "Operation"

Step 11: If the Master NVR online again, the status "Backup" and click the tick.


MASTER DEVICE

Manual Add


Master NVR online again

Master Device Name	IP Address	Status	Operation	Delete
11	10.15.5.11	Backup		

RECORD TRANSFER ✕

 Are you sure to start backup?


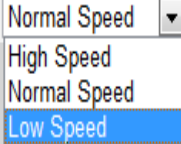
if you want master device back to work, you have to click the tick we show you last photo, after you click tick, you can see this interface, you can click "Yes" to passback record data.

 Successfully repaired**Step 12: Then Master NVR will take over the task again.**

RECORD TRANSFER

Add Task

Slave NVR web

Slave Device Name/IP		Master Device Name/IP	Return Speed
10(10.15.5.10)	13% 	11(10.15.5.11)	Normal Speed 

After you click "Yes" to passback record, you can click "RECORD TRANSFER" to see the process.

Step 13: Transfer the recording data to the Master NVR on the Slave NVR web manually.

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