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Utilities

Attached are the utilities needed to deploy Un-Raid onto the server.

Reset Supermicro IPMI Username and Password to Default

This guide will show you how to use a DOS LiveCD or USB to modify IPMI users and reset the IPMI BMC to factory defaults. The first step is to get ipmicfg. Supermicro has a package that includes DOS, Windows and Linux versions. This is available on the resource page of this Wiki.

IPMIcfg dir listing

```
C:\IPMICFG>dir

Volume in drive C is DOS71CD
Directory of C:\IPMICFG

.                <DIR>          11-23-2012  13:57
..               <DIR>          11-23-2012  16:07
DOS              <DIR>          11-23-2012  13:57
LINUX           <DIR>          11-23-2012  13:57
WIN             <DIR>          11-23-2012  13:57
RELEASEN.TXT    4,406         11-23-2012  13:57
                1 file(s)      4,406 bytes
                5 dir(s)        0 bytes free

C:\IPMICFG>_
```

As we have physical access to this machine, we are using a DOS LiveCD to perform the IPMI Password reset.

IPMIcfg DOS dir listing

```
C:\IPMICFG\DOS>dir

Volume in drive C is DOS71CD
Directory of C:\IPMICFG\DOS

.                <DIR>          11-23-2012  13:57
..               <DIR>          11-23-2012  13:57
GENEUT.DAT      59,624        11-23-2012  13:57
IPMICFG.EXE     216,235       11-23-2012  13:57
MBTYPE.DAT      79,206        11-23-2012  13:57
ROMEN.DAT       4,644         11-23-2012  13:57
ROMEPEX.DAT     4,644         11-23-2012  13:57
SPECEUT1.DAT    71,960        11-23-2012  13:57
SPECEUT2.DAT    71,960        11-23-2012  13:57
SPECEUT3.DAT    71,960        11-23-2012  13:57
SPECEUT4.DAT    71,960        11-23-2012  13:57
SPECEUT5.DAT    71,960        11-23-2012  13:57
                10 file(s)     724,153 bytes
                2 dir(s)        0 bytes free
```

The IPMICFG.EXE that one can see above is the tool that we will use. One of the first things that you should do is make sure you get the IPMI IP address and MAC address. Use `ipmicfg -m` to get this information. It may be a good idea to write this down.

IPMIcfig show IP Address and MAC

```
C:\IPMICFG\DOS>ipmicfg -m
IP=192.168.1.225
MAC=00:25:90:9E:1B:70
C:\IPMICFG\DOS>
```

One of the most useful tools is just creating a new user. During this process, you need four pieces of information:

- User Number
- User Name
- Password
- Privileges

The first three are fairly easy. The fourth is a bit harder. IPMI security allows you to use the following permission levels:

- Administrator Level: 4
- Operator Level: 3
- User Level: 2
- Callback Level: 1

IPMIcfig DOS user levels

```
C:\IPMICFG\DOS>ipmicfg -user help
For privilege level:
Administrator level : 4
Operator level      : 3
User level          : 2
Callback level      : 1
C:\IPMICFG\DOS>
```

The next thing I will generally do is create a new user. The below creates a user with the username Patrick and the password Password. The user is created in the third spot. User 1 is anonymous and user 2 is ADMIN if that is still active.

IPMIcfig DOS add a user at the user level

```
C:\IPMICFG\DOS>ipmicfg -user add 3 Patrick Password 2
Done.

C:\IPMICFG\DOS>ipmicfg -user list
Maximum number of Users      : 10
Count of currently enabled Users : 3
User ID | User Name      | Privilege Level | Enable
-----|-----|-----|-----
      2 | ADMIN         | Administrator   | Yes
      3 | Patrick       | User            | Yes
```

One thing you may want to consider is making an operator user. Using `ipmicfg -user level 3 3` we can turn Patrick (user 3) into an operator (privilege level 3) in that order.

IPMIcfc DOS add a user at the operator level

```
C:\IPMICFG\DOS>ipmicfg -user level 3 3
Done.

C:\IPMICFG\DOS>ipmicfg -user list
Maximum number of Users      : 10
Count of currently enabled Users : 3
User ID | User Name      | Privilege Level | Enable
-----|-----|-----|-----
      2 | ADMIN         | Administrator   | Yes
      3 | Patrick       | Operator        | Yes
```

If this does not work, you can use `IPMIcfc -user level 3 4` and then see Patrick changed to an Administrator.

IPMICFG DOS add a user at the Administrator level

```
C:\IPMICFG\DOS>ipmicfg -user list
Maximum number of Users      : 10
Count of currently enabled Users : 3
User ID | User Name      | Privilege Level | Enable
-----|-----|-----|-----
      2 | ADMIN         | Administrator   | Yes
      3 | Patrick       | Administrator   | Yes

C:\IPMICFG\DOS>_
```

If you would like to factory reset the unit back to factory defaults, use `IPMIcfc -fd` and in th a few seconds the BME will restart. This will reset the user to ADMIN and the password to ADMIN. While the reset is processing, you will be unable to run other commands.

IPMIcfc reset to factory defaults and default IPMI password

```
C:\IPMICFG\DOS>ipmicfg -fd
```

Formatting drives to 512 byte sectors

This must be done for the HGST SAS 10TB drives which were factory formatted with 4096 byte sectors. 4096 byte sectors are not compatible with Un-Raid.

Drives are noted by their last few letters. The command is as follows:

```
sg_format --format --fmtinfo=0 --size=512 -v /dev/sdh
```