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| ***MasterClaw Release Note for***  ***«$release.Name» «$release.Version»*** | | | |
| **DOCUMENT ID** | -«$release.Version» | **VERSION** | 1.0 |
| **AUTHOR** | [$release.Author](mailto:$release.contact) | **DATE** | 2017-11-03 |
| **ARCHIVE** | • Windows: [\\utmnnfs\quest7-packages\](file:///\\utmnnfs\quest7-packages\)  • HTTP: <http://utmnnfs/quest7-packages/> | **PAGES** | 8 |

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# Introduction

This is the release of the patch for MC unified Linux platform based on CentOS/RHEL distributions.

The patch provides support (drivers, libraries, tools etc.) for eoCapture card (Fiberblaze card, FBC).

The operating system is primarily installed with USB flash boot disk installation media or using the installation boot DVD ISO image, followed by installation of the probe plugin. The installation of this patch will be launched after the image and probe plugin installation.

This package introduces new mechanism of memory reservation – huge pages. If you have already used eoCapture card, you should remove memmap kernel parameter from /boot/grub/grub.conf:

Before the change:

kernel /vmlinuz-2.6.32-504.3.3.el6.bigphys.x86\_64 bigphysarea=262144 ro root=/dev/mapper/sys\_vg-rootvol rd\_NO\_LUKS rd\_LVM\_LV=sys\_vg/rootvol LANG=en\_US.UTF-8 panic=30 numa=off vga=791 apic=bigsmp rd\_NO\_MD crashkernel=auto KEYBOARDTYPE=pc KEYTABLE=us SYSFONT=latarcyrheb-sun16 rd\_NO\_DM ide=nodma quiet memmap=0x100000000$0x100000000

After the change:

kernel /vmlinuz-2.6.32-504.3.3.el6.bigphys.x86\_64 bigphysarea=262144 ro root=/dev/mapper/sys\_vg-rootvol rd\_NO\_LUKS rd\_LVM\_LV=sys\_vg/rootvol LANG=en\_US.UTF-8 panic=30 numa=off vga=791 apic=bigsmp rd\_NO\_MD crashkernel=auto KEYBOARDTYPE=pc KEYTABLE=us SYSFONT=latarcyrheb-sun16 rd\_NO\_DM ide=nodma quiet

And reboot the machine. Memmap itself doesn’t affect huge pages, but allocates part of memory that is not used by eoCapture any longer.

It seems that with default huge pages size (2MB) is not possible to reserve more than 16GB to the card(s).

If you don’t need more than 16GB, no other action will be needed and the memory should be reserved just after application of /opt/fiberblaze/bin/fbcard\_cfg\_mem.sh script (or during FBC patch installation when the same script is called).

If you need to reserve more 16 GB, you must set kernel parameters for huge pages defining memory for the card in /boot/grub/grub.conf (in ULP4) or /boot/grub2/grub.cfg (in ULP5).

Example:

[root@G9\_2 bin]# grep hugepage /boot/grub2/grub.cfg

linux16 /vmlinuz-3.10.0-514.26.2.el7.x86\_64 root=/dev/mapper/sys\_vg-rootvol ro crashkernel=auto rd.lvm.lv=sys\_vg/rootvol rd.lvm.lv=sys\_vg/swapvol nodmraid biosdevname=0 net.ifnames=1 rhgb quiet biosnames=0 panic=30 audit=1 vga=normal nomodeset hpsa.hpsa\_simple\_mode=1 hpsa.hpsa\_allow\_any=1 hugepagesz=1G hugepages=32 default\_hugepagesz=1G

In this example we reserved 32GB of memory for the card.

## Identification and Scope

This document describes the release of and the installation procedure.

Purpose is **«$purpose»**

## Summary

A complete list of all changes can be found in chapter 7.3

## Released Items

|  |  |
| --- | --- |
| **Component** | «#foreach($i in $partRelease.references)»«#if ($i.type =="QBASE")»[$i.uri](file:///C:\Users\cz040124\Documents\TMP\Release_\measif\9_0_x_branch\$i.uri)  «#end»«#end» |
| **Release Note** | «#foreach($i in $partRelease.references)»«#if ($i.type =="RN")»[$i.uri](file:///C:\Users\cz040124\Documents\TMP\Release_\measif\9_0_x_branch\$i.uri)  «#end»«#end» |
| **System Test Report** | «#foreach($i in $partRelease.references)»«#if ($i.type =="STR")»[$i.uri](file:///C:\Users\cz040124\Documents\TMP\Release_\measif\9_0_x_branch\$i.uri)  «#end»«#end» |
| **Installation and Configuration Manual** | «#foreach($i in $partRelease.references)»«#if ($i.type =="MANUAL")»[$i.uri](file:///C:\Users\cz040124\Documents\TMP\Release_\measif\9_0_x_branch\$i.uri)  «#end»«#end» |

# Current Status and State

## List of Known Precautions / Defects / Limitations

| Type | Name | Description |
| --- | --- | --- |
| «@before-row#foreach($c in $activities)»«@before-row#if($c.ReleaseVersion.trim() »«@before-row#foreach($a in $c.Activities)»«$a.Type»«@after-row#end»«@after-row#end»«@after-row#end» | «#if($a.uri.trim() == "") $a.name #else»[$a.name]($a.uri)«#end» |  |

# Availability

«#foreach($i in $globalAvailabilities)»for MasterClaw for MasterClaw

**Note:** The availability can be changed after this Release Note has been filed. The updated availability can be found at <http://rddoc/rddoc/MasterQuest/proj/Status>

«#if ($featureAvailabilities.size() > 0)»

## Features availability

| Component | MC Version | Availability | Reason | Risk | Description |
| --- | --- | --- | --- | --- | --- |
| «@before-row#foreach($a in $featureAvaila»«$a.feature»«@after-row#end» |  | **«$a.level»** | *«$a.reason»* |  |  |

«#end»

## Risk Evaluation

Risk assessment: **«$partRelease.FirstGlobal.risk».**

Note: The Risk Evaluation can be changed after this RN has been filed. The updated Risk Evaluation can be found at <http://rddoc/rddoc/MasterQuest/proj/Status/>.

# Compatibility/Dependencies

## Referred documents

|  |  |
| --- | --- |
| Doc Abbreviation | Doc name, description, ID/link |
| **[Unified Linux Platform]** | Unified Linux platform release note:  <http://utmnnfs/quest7-packages/platform/platform_CentOS6.6/> (MC-7.1)  <http://utmnnfs/quest7-packages/platform/platform_RHEL6.6/> (MC-7.1)  <http://utmnnfs/quest7-packages/platform/CentOS7/> (MC-8.0) |

# Software Dependency

## HW and 3rd. part SW or Images

The SIM applications are designed to run on Master Claw Linux probes with standard platform according to [**[BASELINE]**](#BASELINE). Particular SIM types further depend on particular Link Unit HW types.

«#foreach($d in $dependencies)»«#if ($d.PlatformDependencies.size() > 0 »

| Component | Version Range | Tested Version | Description |
| --- | --- | --- | --- |
| «@before-row#foreach($p in $d.platformDep»«$p.Component»«@after-row#end» | «$p.RequiredVersion» | «$p.TestedVersion» | «$p.Description» |

«#elseif ($d.PlatformDependencies.size() »

«#end»«#end»

«#foreach($d in $dependencies)»«#if ($d.thirdPartDependencies.size() > 0»

| Component | Version Range | Tested Version | Description |
| --- | --- | --- | --- |
| «@before-row#foreach($p in $d.thirdPartDe»«$p.Component»«@after-row#end» | «$p.RequiredVersion» | «$p.TestedVersion» | «$p.Description» |

«#elseif ($d.thirdPartDependencies.size()»«#end»«#end»

## MasterClaw SW

| Component | Version Range | Tested Version | Req. local availability | Description |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

# Installation

## Downloading and verifying installation kit

This release consists of the following file:

* Platform Patch file
* Checksum file (md5 file)

Files are placed at «#foreach($i in $partRelease.references)» «#if ($i.type =="QBASE")»<$i.uri/>«#end»«#*end»* and must be downloaded as binary (with the exception of md5 files).

Integrity of files can be verified with:

# md5sum –c -.pkg.md5sum

If the files are not corrupt, you can proceed to the next paragraph.

## Installing Linux patch

To install this package perform the following steps:

1. Check with “shover” command that one of CentOS/RHEL 5.8, 6.4 or 6.6 based images and probe-plugin is installed.
2. Copy the patch file to a local directory.
3. Install the patch using the command:

# platformPatchManager apply -.pkg

This platform patch is not dependent on any previous patch – it can be installed on a system with any platform patch or without any platform patch.

## Ansible Installation

This package can be installed via Ansible. The Ansible config role is called CentOS-RHEL\_FBC. No user settings is necessary and the default behavior is to install the latest available version of the package. The package version to be installed can be explicitly configured in the Ansible inventory file by assigning the name of the required package file to the Ansible variable fbc\_filename. The setting can be done for a host group or a host.

Example: A host-specific configuration

[QMPA]

172.28.70.186 fbc\_filename=-.pkg

# Appendix

## Abbreviations and Definitions

|  |  |
| --- | --- |
| Abbreviation/Definition | Explanation |
| Qbase | Tool used for managing q7 packages. |
| Linux | The Linux Operating System |
| RHEL | Red Hat Enterprise Linux distribution |
| CentOS | Red Hat Enterprise Linux distribution free clone |
| DB | Data Base |
| MC Processor board V2 | Anritsu re-branded name for Kontron CP6016 CPU board |
| ULP | Unified Linux Platform |
| FBC | Fiberblaze card |

## Change History

|  |  |  |
| --- | --- | --- |
| Type | Name | Description |
| *\_«$c.ReleaseVersion»* | | |
| «@before-row#foreach($a in $c.Activities)» | «#if($a.uri.trim() == "") $a.name#else»[$a.name]($a.uri)«#end» |  |

## Troubleshooting

After the FBC patch installation please check that driver 3.1.0.1 is loaded: “/opt/fiberblaze/bin/cardstat | grep Driver" (it’s supposed you already have a FBC probe configuration activated on the probe – if not, activate one)

If you don’t see the correct driver version,

1) stop APM “pm quit”

2) check if there is “#check\_fbc\_memmap” line in /etc/init.d/ntp\_hpe\_restarter or /etc/init.d/ntp\_ptp\_hpe\_restarter. If not, comment “check\_fbc\_memmap” (change “check\_fbc\_memmap” to “#check\_fbc\_memmap”) in one of this scripts followed by “service ntp-hpe-restarter stop”

3) uninstall fbcapture module by “rmmod fbcapture”

4) restart APM “service qapm start”. If you stopped ntp-hpe-restarter, issue “service ntp-hpe-restarter start”

If new driver is still not loaded, reboot the machine."

### SIM is not starting

We had several similar EPRs related to the problem that SIM was not starting after SIM and FBC patch upgrade to version supporting the huge pages. In li-ether-sim log you can find most ofen this error message:

FBConfigureCard failed: 20:The value supplied is outside its allowed range

These cases can be divided in several groups

1. you have more probe instances and some of them use huge pages and some memmap mechanism – this is indeed configuration error because you can’t have the same card(s) configured by the different mechanism. If you are not sure which mechanism your probe instances use, check the size of the fbc\_load.sh in /nettest/appl/root\_conf/li-ether-sim-modules/ (for first instance) and /var/anritsu<number\_of\_probe\_instance>/root\_conf/li-ether-sim-modules/ (for higher instances). The scripts should be the same on all instances.
2. you have inactive probe instance (commented in apm.ini file) that used different memory reservation mechanism that your active instance. This is already fixed in ULP 4.0.9. You can also download qapm file attached to EPR 45927 and replace qapm file on your probe to get rid of this issue.
3. problems related to memory reservation via huge pages – this problems should be fixed by new fbc\_load.sh script (distributed in probe-sims/li-ether-sim package and also in FBC patch 2.0.1) and correct configuration that is described in this document, section Introduction.
4. not compatible version of FBC patch and SIM – check RELN for probe-sims/li-ether-sim to learn the dependency on FBC patch
5. card is not starting on ULP5 due to presence of fiberblaze driver – this is tracked in EPR 46665 and fixed in ULP 5.0.9. There are two workarounds: 1) stop APM, unload both fiberblaze and fbcapture drivers with rmmod command, and start APM 2) create /etc/modprobe.d/fiberblaze.conf file with two lines:

blacklist fiberblaze

blacklist fbcapture

and reboot the server.

1. unsupported value for gtpTablePower2 in fbcard<number>.cfg – for GTPD configuration this setting is mandatory and it’s set by interactive script /opt/fiberblaze/bin/fbcard\_cfg\_hw.sh. Currently the max supported value is 28. If you manually change fbcard<number>.cfg and put a value higher than 28, the card may not be operational.
2. unsupported memory reserved for the card (set by script /opt/fiberblaze/bin/fbcard\_cfg\_mem.sh) – as described in chapter for huge pages configuration, currently there is a limit up to 16GB for default 2M huge pages (doesn’t require reboot) and up to 504GB (in the previous version it was only 32GB) for 1G huge pages (require setting kernel parameters and reboot). If you try to reserve memory outside this range, the card will not be operational.

.

We recommend to use the same version of SIM on all your probe instances in order to avoid some of the mentioned issues.

After installation of FBC patch 2.0.1 it may be necessary to several time restart APM so that new mechanism of huge pages (in the script fbc\_load.sh) takes effect.

### Log files

You can check installation log files at the following paths:

* /var/log/platformPatchManager/debug.log

## EPR Generation

In case of EPR please attach the output of ‘platformPatchManager info; shover’ commands, among with the archive generated by LinuxGetLog.sh script. The archive, named <DATE>-Platform\_ULP\_log.tar.bz2 is created into the directory where the script is running.