Subject RE: HDR test 1

From Lucas Gregory <l.gregory@ateme.com>

To
Rick Farrow <rick.farrow@npgco.com>, Julio Saint Felix <j.saintfelix@ateme.com>, Mickael Raulet <m.raulet@ateme.com>, Brian Ford <b.ford@ateme.com>

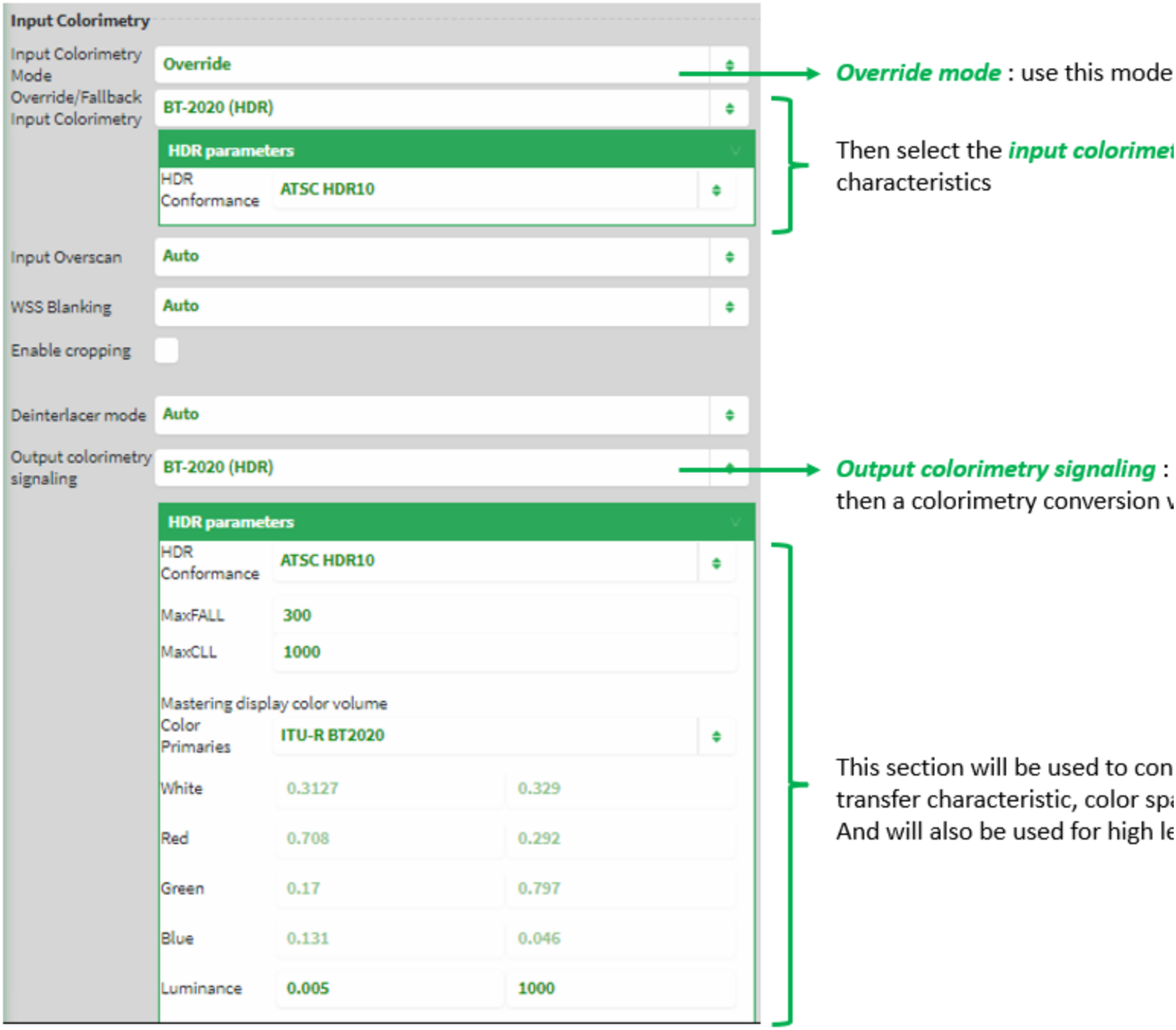
Cc Williams, Kelly <kwilliams@nab.org>

Date Thursday May 19, 2022 2:39:38 AM

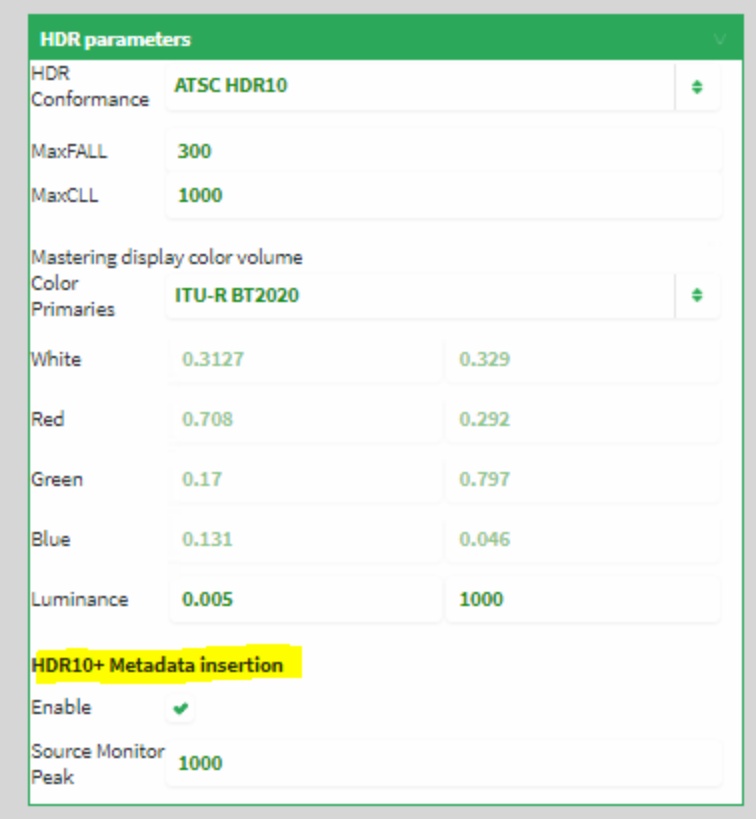
Hello Rick,
Thanks

I took a quick look at your service configuration, and I have the following remarks:

- The colorimetry related parameters are currently set to “preserve”, i.e the video preprocessor/encoder will not perform any processing (HDR conversion, color space changes, …) and will rely on the metadata found in the input stream to signal the output stream.
- I usually prefer to explicitly set the input/output colorimetry parameters in the GUI, which can be done in the video track configuration > more video parameters :



- This allows you to perform HLG <> PQ conversions for instance, and to select the HDR conformance (DVB/ATSC, HDR10/PQ10, …) you want in your output stream.
- In your case, with a HDR10 source and if you don't want to perform a conversion, I recommend to use these parameters (on the screenshot above).
- For HDR10+ signalization :
- - The HDR10+ metadata are inserted in a dedicated SEI in the video stream. These SEI are currently not decoded in the input stream and passed through by Titan Live.
  - Titan Live does includes a HDR10+ Metadata generator, that can be enabled in the HDR Parameters section :



- - BUT: in Titan Live v4.1.28.x, the GUI will force you to use Full Range as soon as you enable HDR10+, which is actually not something we want.
  - A new version of the HDR10+ metadata generator is currently being integrated in Titan Live to correct this issue, and I will deliver you a Demo firmware as soon as it is available.

Let me know if you need further details,

Lucas

De : Rick Farrow <rick.farrow@npgco.com>
Envoyé : mercredi 18 mai 2022 20:45
À : Lucas Gregory <l.gregory@ateme.com>; Julio Saint Felix <j.saintfelix@ateme.com>; Mickael Raulet <m.raulet@ateme.com>; Brian Ford <b.ford@ateme.com>
Cc : Williams, Kelly <kwilliams@nab.org>
Objet : Re: HDR test 1

Lucas,

Sorry for the delay - your message got caught in our mimecast spam filter. I have updated the mimecast configuration to always allow from @ateme.com.

I did log into the machine. If it gets locked again, the password to login is just npg.

The loaner machine that Ateme sent was running 4.1.28.1.

Rick Farrow
Digital Video Engineer
News Press & Gazette Broadcast
(816) 749-2823 [desk phone]

From: Lucas <l.gregory@ateme.com>
To: Rick <rick.farrow@npgco.com>; Julio <j.saintfelix@ateme.com>; Mickael <m.raulet@ateme.com>; Brian <

b.ford@ateme.com>
Cc: Kelly <kwilliams@nab.org>
Date: Wednesday, 18 May 2022 1:38 PM CDT
Subject: RE: HDR test 1

Hello Rick,
I wanted to but the distant PC I try to access through teamviewer is currently locked and I can not unlock it.
Could you unlock it please ?
Also I was wondering what firmware version you used to edit the JSON you shared, because I can not upload it on a 4.1.24.70x release for some reasons…
Thanks in advance,
Lucas

De : Rick Farrow <rick.farrow@npgco.com>
Envoyé : mercredi 18 mai 2022 15:51
À : Julio Saint Felix <j.saintfelix@ateme.com>; Mickael Raulet <m.raulet@ateme.com>; Lucas Gregory <l.gregory@ateme.com>; Brian Ford <b.ford@ateme.com>
Cc : Williams, Kelly <kwilliams@nab.org>
Objet : Fwd: HDR test 1

Ateme Team,

Has anyone had a chance to jump into Santa Barbara and check the service configuration on the loaner Titan Live to ensure it is properly configured for HDR10 encoding?

I have attached the service profile to this email as well. We would like to have this checked before the update call this afternoon so we can make PCAPs of the stream and go to the next piece of test media.

Rick Farrow
Digital Video Engineer
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(816) 749-2823 [desk phone]

From: Paul <paul.hearty@samsung.com>
To: Rick <rick.farrow@npgco.com>; Jon <j.fairhurst@samsung.com>
Date: Tuesday, 17 May 2022 3:43 PM CDT
Subject: RE: HDR test 1

Hi, Rick:

The HDR10+ metadata would be calculated and added by the encoder if that option is selected by the operator. So, if you can check the settings, that should tell the story.

I will make ATEME aware you need them to verify all.

Best.

Paul

Sent from my T-Mobile 5G Device

-------- Original message --------
From: Rick Farrow <rick.farrow@npgco.com>
Date: 5/17/22 1:21 PM (GMT-08:00)
To: Paul Hearty <paul.hearty@samsung.com>, Jon Fairhurst <j.fairhurst@samsung.com>

Subject: Re: HDR test 1

I believe we are still waiting for Ateme to confirm that the service configuration in our lab is passing thorugh any HDR information in the input.

I am currently using the file that Samsung provided named "HDR10_SIZZLE_PLUS_UP-FINAL_02_60Mbps_HDR10Plus.mp4." I do not know if this file includes HDR+ metadata, nor if the Ateme is passing through any metadata that may be in this input.

I have confirmed video on the Samsung, LG and Sony TVs in the lab. So once we get confirmation from Ateme that the service is configured properly then we can take a capture and post on the shared drive.

Rick Farrow
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(816) 749-2823 [desk phone]

From: Paul <paul.hearty@samsung.com>
To: Jon <j.fairhurst@samsung.com>; Rick <rick.farrow@npgco.com>
Date: Tuesday, 17 May 2022 3:16 PM CDT
Subject: RE: HDR test 1

Hi, Rick:

Could you please confirm status on HDR10/HDR10+?

Also, is there anything Samsung could or should be doing at this point?

Thanks.

Paul

Paul J. Hearty, PhD
Chief Standards Strategist
Digital Media Solutions
Samsung Research America
Mobile: +1-650-305-6872

From: Jon Fairhurst <j.fairhurst@samsung.com>
Sent: Friday, May 13, 2022 5:13 PM
To: Rick Farrow <rick.farrow@npgco.com>
Cc: Paul Hearty <paul.hearty@samsung.com>
Subject: RE: HDR test 1

Hi Rick,

I assume that this is HDR10, without metadata correct? It will be great to get confirmation from ATEME. Once this is confirmed and you have a capture, we look forward to adding dynamic metadata. I expect that we could do all combinations: HDR10+, DV, HDR 10+ & DV.

Given that this is at an upper layer and does not rely on PHY or clock, I expect that saving PCAPs for evaluation will be adequate.

In any case, please confirm the format.

All the best,

-Jon Fairhurst

From: NAB-NPG 2021 InterOp <NAB-NPG_2021_INTEROP@LISTSERV.NAB.ORG> **On Behalf Of** Rick Farrow
Sent: Friday, May 13, 2022 4:21 PM
To: NAB-NPG_2021_INTEROP@LISTSERV.NAB.ORG
Subject: HDR test 1

I have the first HDR test running on the transmitter air chain. I have not yet updated the lab information page to reflect this setup.

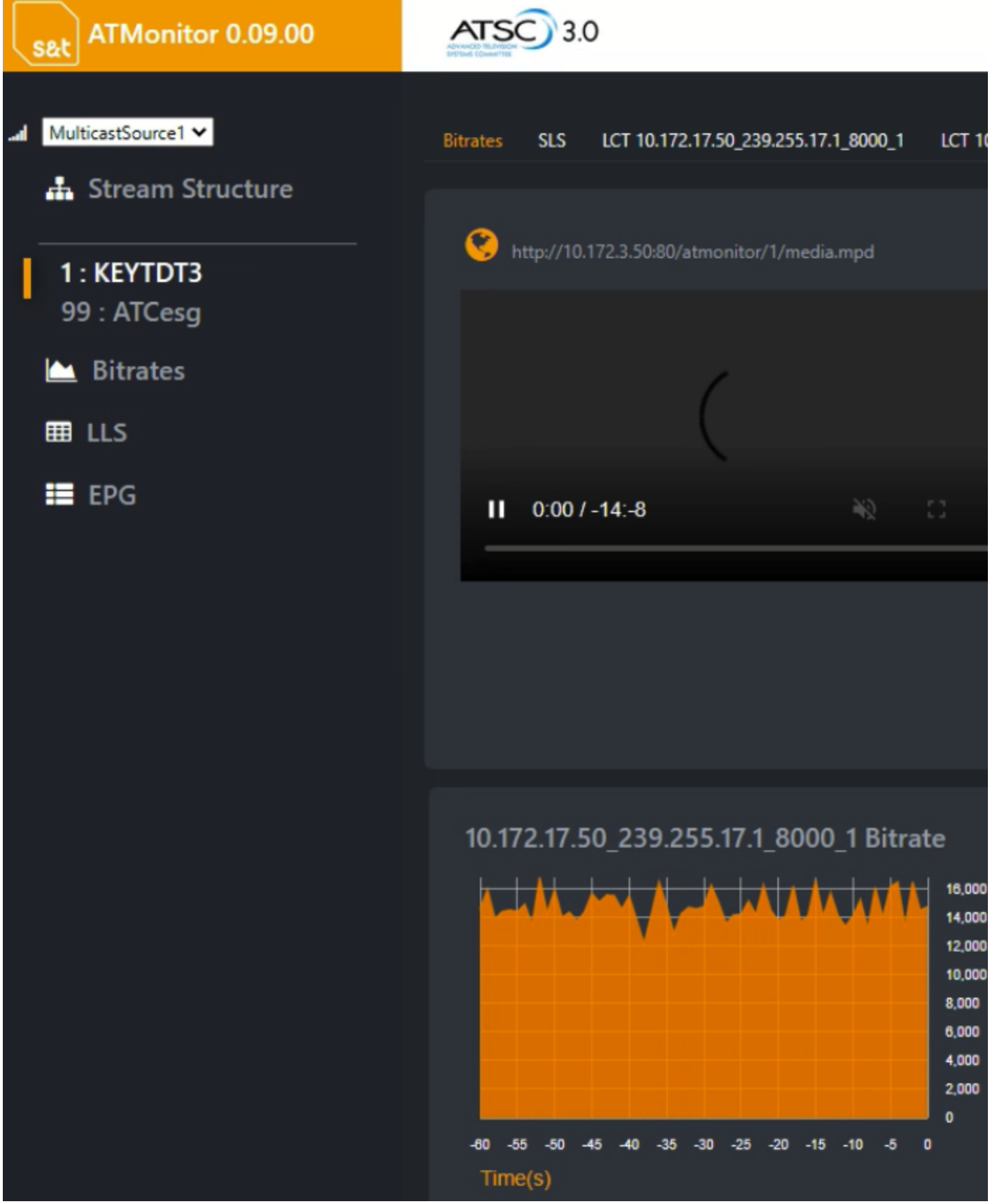
I am using tsplay under Ubuntu to stream the video file provided by Samsung (HDR10_Sizzle_Plus_up-Final_02_60Mbps_HDR10Plus - 3840x2160 23.97 fps) into the Ateme, where is is re-encoded at 3840x2180 59.94 fps.
It then goes to ATCaster and Enensys Mediacast, I currently am using ATCaster to feed the Triveni Gateway, which then feeds the GatesAir transmitter. This is going out as channel 17.1, in PLP1 which has a max bitrate of 17.34 Mbps. I am encoding at 14 Mbps video, which is the most I can go without causing PLP overruns due to network bursts.

I do see a picture on the Samsung TV, but have not checked the others.

I think it would be beneficial if Ateme could jump in and check the encoding parameters to ensure that the Ateme is not stripping any metadata or modifying the color space as it re-encodes. Also check the utilization of the server (it appears to be using about 25% CPU if I am reading properly.) The loaner server is at 10.172.3.27.

I have attached screen shots of the Triveni gateway and ATMonitor. Both are showing fluctuations in the video bitrate, but the Gateway shows larger variations that ATMonitor.


triveni DIGITAL
ATSC3 Gateway
Triveni Gateway
Main
Monitor
Subframe/PLP
STL-TP
Network
Date/Time
PLP #0
4 Mb
3 Mb
3 Mb
2 Mb
2 Mb
1 Mb
500 Kb
0 b
60 55 50 45 40 35 30 25 20 15 10
PLP #1
20 Mb
15 Mb
10 Mb
5 Mb
0 b
60 55 50 45 40 35 30 25 20 15 10



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