**Highest level summary of several earlier discussions as of 6/13 follows. This will be the conclusions we share within OFA and with the outside:**

* Distribution Issues:
* OFA will commit to working better with the distros, identifying differences that exist with OFED and become active in their beta programs. AR: Jim with contact info needed from Bill and Ira.
* OFA will encourage most users to get their code from the distros and provide improved means and mechanisms for leading edge users to get new functionality.
* OFA is committed to fixing an existing ABI issue which makes OFED userspace incompatible with what RHEL ships. We expect this to be painful, but once accomplished, we will be diligent to keep the problem from happening again. AR: Woody responded that his team will work on part of this. Possibly, specifically, Sean with someone from Mellanox.
* Getting code upstream more quickly or more efficiently
* OFA will explore ways to get code upstream more quickly and efficiently
* We are still exploring thoughts around how to minimize our reliance on Roland Drier as part of our desire for greater efficiency in moving code upstream. The current thought, still being worked, is to find a skilled individual such as Bob Pearson or Jason Gunthorpe who could help Roland by providing additional code reviews and other activities to reduce the demands on his time. We are exploring this on a compensated basis, probably part-time. AR: Bill to explore who is qualified to do this, compensation and related issues
* OFED Packaging Issues:
* OFA will not take on the problem of how IHVs make drivers available, whether from their own web site, via the distros or any other mechanism. We’ll take that as a problem for the IHVs to solve with the distros.
* OFA will not entertain the notion of managing multiple releases
* In order to deal with the number of issues surfaced here, and also to meet some urgent needs, we have agreed to have near-term OFED releases, 1.5.3.2 and 1.5.4, while making plans for a 2.0 release which will fully respond to all the issues raised here. The date for the 2.0 Release has not yet been set. AR: Woody and Tziporet to develop plans and requirements and definitions for what goes into each release.
* Todd Rimmer has come up with an interesting description of 3 classes of users and 4 degrees of code compatibility. The classes of users relates to how urgently the latest code is needed, vs. the extent to which the user can wait for mainstream delivery the distros. Todd has reconciled the two notions in a presentation which documents our requirements for ABI and API compatibility relative to various OFED releases and distros. This is our agreed process moving forward. The presentation will also be included in the “newbie” section of the OFA web site
* OFED will adopt the procedure of intentionally forking code for experimental APIs and including both in OFED releases with install options to select which or with sonames setup so user can install both and default to the non-experimental APIs (e.g. special action needed by developer to use experimental features). AR: Open. Are there specific new procedures here to accomplish this?
* Documentation, web site support and related
* Documentation will be improved in general. AR: all developers and maintainers. We need to communicate this expectation and enforce it.
* Web pages and other reference materials will be moved so that they can be found by Google searches
* OFA will create a new area of the web site with the working name of “Getting Started with OFED. This will pull from many existing materials, but organized to help newbies. AR: Ken with critical input from Woody, Tziporet and possibly others including the MWG.
* Source code management and related
* Access to specific code and features will be improved to make it easier for distros and others. DAPL was given as an example of how this can be done well.
* OFA will work to put in place a canonical source repository, but we will do so by improving our code management, references and so on. We will not invest in github. AR: please comment on exactly who needs to do what for each of these bullets.
* OFED testing:
* We are continuing to discuss the need for better testing facilities for OFED including the possibility of working the national labs and also possibly some commercial sites. AR: Jim, Bill and Rupert

Additional comments from 6/1 discussion are inline below and underlined. Additional comments from 6/13 are flagged with [6/13]:

Section: summary actions (source: Jim) – ***note: comments added in bold italics***:

1. Start recommending production users use distros ***-- Agreed***
2. Work diligently to align what’s upstream with feature set in OFED for ABI compatibility ***-- Agreed***
3. XRC patch ***– Consider as a release decision***
4. P-threads patch ***– Agreed to fix this and treat as a release decision***
5. Understand how we can support customers who are using the distros as primary source. May take some changes from standpoint of IHVs – may need to create and distribute new drivers, e.g., initially from web site. ***– View this as a problem for the IHVs to work with the distros***
6. Consider working with the Linux Foundation as a way to mitigate our current reliance Roland. Maybe by assisting vendors and others to move their code into main line Linux, like a mentoring program maybe? ***– The specific mention of LF was taken as a “means/ends” issue. We agreed we had to find some way to improve the process of getting code upstream. This may be a place where OFA could spend some money, issue a RFP, bring in some additional resources.***Bill was doubtful LF would be interested in such an engagement. However, his own firm, SFW may be interested in doing this and possibly some other activities for a fee. In order to avoid the appearance of “self-dealing” or anything along the lines of that, Bill will investigate the process and procedures adopted by another organization, “OpenSFS”. OpenSFS is active in the Lustre community and manages a RFP process to secure essential services for Lustre users. They appear to have come up with procedures that work fairly and as transparently as possible.

[6/13]: There was discussion around whether to attempt to support multiple releases and the conclusion was reached to stay with one, though that still means, of course that there is actual work going on with multiple releases. There was a feeling that skilled resources could be very beneficial in increasing the speed of getting code upstream. Bill suggested Bob Pearson or Jason of Obsidian were the kinds of individuals who’d have the required skills. Tziporet earlier suggested the benefit of the individual being vendor independent. I think Bill has the AR to investigate whether we could secure such an additional, compensated resource.
7. Number releases more consistently. This refers to the fact OFED contained forked package version numbers ***-- Agreed***
8. Some discussion on whether release contents are clear enough, but the clear action appears to be to make them more accessible. For example, put them where they’d be accessible by Google; not behind a login wall ***– This was taken to be two issues. Improve the documentation, which was agreed, and see if we can move some information out, not behind a log-in wall, so that it could be Googled. AR: Jim.***[6/13]: Jim engaged with Ken and he will work with the Google search issue
9. Improve the access to specific code and features in general and specifically to make it easier for the distros to find. ***– DAPL was given as an example of how this can be done correctly. AR: Vlad to provide a list of git trees***Vlad provided the information on git trees and it spawned a useful email thread. Let me know if you need this forwarded to you

[6/13]: Ken agreed to make the various updates to web pages requested in Vlad’s emails. This will include updating maintainers’ lists, pointers, git trees and related.
10. OFA needs a canonical source repository. Current state is described as a “mess”. Specific suggestion for OFA to invest in an OFA-specific github account which would serve as the canonical copy of the one and only OFA SW releases in git format. Instead of uploading tar files to the OFA server developers would deliver git repositories to the github site. ***– It wasn’t clear that OFA should invest in something specific like acquiring a “github account”. In discussion it seemed we can and should do a better job in spelling out the relationship between git trees, possibly a new page for each new master to avoid losing history and the ability to clearly ID the current master. Again, we can work from the list Vlad has been asked to provide. This may also be a place where some paid for resources can be applied for a general clean-up under our careful management.***This point generated a good deal of discussion. Re the issue of this being an area spending some money could be helpful, there was the suggestion on web master, Ken, could do this work, if he’s interested, under the supervision of Tziporet and the EWG. I can forward a number of additional discussion points and suggestions raised here directly with Ken again, assuming he’s interested.

There was another suggestion for Ken to consider, possibly with this group but possibly also with the MWG, and that is creating a “Getting Started with OFED”. The feeling is most of the materials exist, but not specifically organized and available for this purpose.

[6/13]: Ken has agreed to work on this. We made the final decision to not pursue setting up a github account at this point.
11. Most important thing is to resolve the ABI issue. If OFED is userspace incompatible with what RHEL ships, then this is a huge problem and has to stop. ***– Agree, we need to fix this, even if painful***

***Additional discussion, not directly related to the above:***

1. ***Suggest having release 1.5.4 to include features and bug fixes that are needed urgently. Then plan for release 2.0 containing longer-term fixes. Need to develop a complete list of requirements for each, but especially 2.0***
2. ***Todd was asked to relate the 3 classes of users to the 4 categories of compatibility***Todd produced an excellent presentation that was discussed and agreed to in this meeting. There was some question as to how to make use of this new information and guidance, and we decided to post it on the web site. Again, this can help new users and is another point I’ll discuss with Ken.

[6/13]: This has all been agreed to with Ken.

OFA Packaging Requirements/Concerns (Source: Todd): – ***note: comments added in bold italics***:

1. ABI issues must be resolved so that OFED is forward ABI compatible with distro OFED and previous OFED ***– Agreed, no need to discuss further***
	1. Must package appropriate compatibility libraries, such as older sonames
	2. Must establish a process and consciousness to ABI changes to ensure they are done in a forward compatible manner (retain support for old and new ABI) if at all possible.
	3. This is a complex matrix/process. Ideally soname changes to reflect incompatible ABI changes would be “globally done” such that a ISV or user who develops against OFED could work without recompiling against a future distro which includes that package. Ideally package names and revisions would be globally defined such that a user can look at rpm versions to decide feature content and map to a release note for the component to ID capabilities. A good example of where this is true presently is gcc version numbers.
2. Will point “late adopters” such as enterprise users to distro OFED. ***– Agreed, no need to discuss further***
3. Need a vehicle for QA of OFA. Distros typically have small test clusters and do limited IB QA. OFED has served this purpose in the past ***– In general this was viewed as being the distros’ problem, but at the same time there was some discussion on the possibility of making some of our interop testing available to the distros. AR: Rupert to investigate***We agreed this AR should stay with Rupert, but Bill and I agreed to help locate possible test clusters. Bill had some intial thoughts of one in Germany and possibly something at Oak Ridge. There was also a mention of a test cluster at LLNL, “Hyperion”, but it wasn’t clear how we could get access to it for our testing.

[6/13]: Bill hasn’t been able to spend time on this, but there were some additional thoughts on how to secure test resources. In particular, Bill suggested looking for commercial locations, including possibly Morgan Stanley, locations Mellanox might be able to identify from their sales team in New York or finally Oracle. AR: Jim to draft an email that can be sent out to set-up follow-on discussions.
4. Must have a solution within OFA which supports both “mid-adopters” and “early-adopters”. Mid adopters will typically be HPC production users who can’t wait for OFED to appear in distro, early-adopters will be researchers and experimenters in both enterprise and HPC. ***– There was general agreement, again, in this characterization of our users. It seemed there will always be a synchronization problem between the distros and OFED. However, it also seemed we could do more to help with “configuration flags” and “#defines”. I’m going to need help with the specifics.***This discussion was related to the classes of users, specifically their need for new features and to allow developers to make them available in ways that “bound” the code, thus containing more general “risk” associated with new features and releases.

	1. Ideally with 1 solution/release by OFA
	2. Ensure any new OFA features are acceptable upstream or don’t affect ABI
	3. Clearly identify “high risk features”
		1. For ULPs, such as historically NFS RDMA, just indicate per ULP and not default in install
		2. For larger scope changes which affect stack itself (additions such as XRC), have a way to allow user to install without any such early adopter changes and a way for user to install with all such early adopter changes. (--configure flags, etc)
		3. For OFED release planning, clearly identify and agree to what will be considered “mid-adopter” features vs “early-adopter” and indicate any ABI impacts
5. Must work to keep OFED better synchronized with kernel.org and get fixes upstream faster and more efficiently. ***– Again, this is easy to agree with, the problem is “how”. There was interesting discussion over RH being a bigger problem than SuSE because RH pulls from the upstream source we’ve already identified as lagging. SuSE pulls from OFED, so is much more current and in synch with us. One suggestion that I want to capture is for OFA to meet with the distros to see what we can agree to in the way of new processes and procedures. There was also some discussion about doing a better job of documenting known discrepancies on our web site, possibly also linking to the distro’s web site and, in turn, encouraging them to improve their documentation. There was also a suggestion that OFA should become part of the beta program with RH. Although we may not otherwise qualify as a “major customer”, our importance in the delivery chain should justify our participation.***[6/13]: on the specific question of OFA becoming part of a beta program, Jim was given a contact name within Intel who could probably help. On the more general questions related to synchronizing OFED and kernel.org, we came to two possible solutions. The one we selected was to fork the code and create an experimental branch. The one we rejected was to allow experiments and “bound” them somehow without forking the code. This was just seen to be too difficult to manage.

	1. Numerous patches (over 100 at last count) are sitting in kernel.org queue and not making it into kernel.org in a timely manner
	2. Must be a process to ensure timely inclusion of patches into user space code also.
6. Must work with distros to get ancillary details (such as startup scripts, all of OFED tools and libraries, etc) into distro such that distro is truly viable for a wide range of late adopters. ***– If there were any actions here, I missed them***
	1. Many key parts of OFA, beyond just ofa\_kernel patches, are not included in distros.
	2. OFA should define how it will interact with distro bug tracking systems so relationship between a given OFED bug and its status in a given distro can be tracked
	3. Get distro aligned with OFA on rpm names and numbers
7. Presently ofa\_kernel is packaged as a single rpm which generates all the drivers, ULPs and some key configuration files and startup scripts. There would be great benefit in providing a separate rpm per HW driver and perhaps per ULP such that end users can more easily identify what was installed and/or replace just one component (such as an updated HW driver from a IHV or a single ULP). Also separating the configuration files and startup scripts into a separate user space rpm would make it easier for distros to include them. ***– I captured this as having been discussed about a year ago. Apparently QLogic has raised this a few times, and there is no easy or obvious resolution. Todd was asked to take this back to QLogic for investigation and possibly resolution. Todd said he’d try but couldn’t commit. This may also be a place where OFA spending some money could help, but we don’t know yet.***[6/13]: Todd has not been able to conclude anything, but he is working on this.
8. Need to more carefully monitor and prevent last minute surprises between the final rc and GA. Avoid bringing in major fixes or changes between rc and GA. Have tighter code review and approval on changes between rc and GA. ***– Nothing further needs to be done here. This was ack’d as an earlier SNAFU, lesson learned, won’t happen again***
9. Original OFA agreement was to allow for vendor differentiation in management software, however present practices only permit issues/fixes observed with opensm and ofa tools to be considered. ***– After some discussion it seemed there wasn’t anything OFA could do to help. The concept of differentiation is certainly correctly stated and valid. The problem continues to appear to be time available with Roland and the need to keep after it, even over the course of months, to prevail***
10. Need a plan for QA and interop testing of specific MPI versions against an OFA/OFED release. ***– MPI is currently included but starting with release 1.6 it won’t be. However, testing will still take place and the EWG has agreed to document in release notes what was tested.***