

CSM meeting minutes – December 2010 summit

Wednesday Post-Meeting - The Hilmarillion

Present: CCP Hellmar (Hilmar)

Late into the second day at the summit, the CSM welcomed a surprise guest, CCP CEO Hilmar, who arrived formally dressed in a classic EVE t-shirt.

This meeting had no specific topic, but instead was a free-format dialogue between Hilmar and the CSM. However, large parts of the discussion related to Incarna issues that are under NDA.

The CSM began by thanking Hilmar for taking the time in October to listen and respond to CSM concerns regarding microtransactions. Hilmar responded that while he still believes that diversifying into microtransactions is an important step, the guidance and feedback from the CSM was extremely helpful.

The CSM noted with pleasure the obvious change in tone since the June Summit, as well as the improvements in game since then. The CSM is much more optimistic than they were at that time, and believes that the players are as well.

While the CSM was pleased with the progress of the Summit so far, concern was expressed about the progress of Incarna and its messaging. Hilmar responded by pointing out that the initial Incarna release is a first step out of many, and that it will positively impact new players. The CSM appreciated this point – that it provides a more familiar entry point for new players used to avatar-based games – but commented that at least initially the majority of the gameplay would be ship-based.

Hilmar stated that CCP's philosophy is to start small and see what happens; CCP does not want to over-design Incarna in the early stages, but see how the players use it and respond to that.

Discussion turned to player expectations; CSM urged CCP to aggressively communicate with the players regarding Incarna and its planned features. CSM praised CCP for the decision to delay Incursion, and for how it was communicated, and hoped that the lessons learned there would be applied to Incarna messaging.

CSM expressed that, given historical precedents, players want the first Incarna release to have a reason for existing that is more than a platform for future awesomeness. Furthermore, CSM cautioned that there was a real risk of a Catch-22 situation, where anything CCP did would result in a troubled reception for Incarna.

Hilmar stated that he hoped that the messaging for Incarna and its initial release, as well as the longer-term roadmap, would become much clearer by FanFest. The CSM cautioned, however, that this might be too late.

The meeting ended on a positive note, with CSM noting that CCP had definitely responded, in an extremely positive way, to the concerns raised at the June summit, and that they hoped that CCP would continue to address these concerns going forward.

Virtual goods

Present: CCP Dr.EyjoG, CCP Zulu

CCP started by asking whether the Virtual Goods strategy it has was clear, and whether the CSM agreed with it. CSM's response was that yes, the strategy was clear and that CCP's current plan was acceptable – only vanity items, with no game changing effects, are going to be available for sale. This decision was arrived to, jointly by the CSM and CCP, during the October meeting 2010 and was further clarified in [CCP Zulu's devblog](#).

Discussions proceeded regarding PLEX and its granularity, i.e. buying a vanity item for a whole PLEX seems a bit steep. Fractional PLEX would be required to address that issue. Furthermore the CSM stressed their concern regarding PLEX prices and what effects the Virtual Goods strategy would have on it, if any. CCP controlling the price of PLEX is not a viable solution – CCP's approach to the market is completely hands off there – for that control would always be ambiguous and controversial along with causing unpredictable consequences. The CSM suggested that the RMT business might suffer if CCP put downwards pressure on PLEX value, but historical data shows that it would not work as those sellers usually price themselves below PLEX and would simply change their prices to compensate. Dr. Eyjo stated that the only practical way to influence the prices is with ISK sinks and faucets.

The CSM inquired about the relationship between price of PLEX and the stock of PLEX, since PLEX has now been available for close to 18 months. The data shows that the stock of PLEX is rising slowly and that the expected bubbles following such a stock buildup have not materialized. The reason for that is believed to be that the PLEX market is an emergent market, and that many players want to have one or two PLEX in stock, just in case. So buyers seem to be stocking up for personal use, not for future sales. Also a part of this could be speculative buying; however this does not appear to be the case. Historically, the price fluctuations are within acceptable limits, and CCP estimates that the market is functioning as it should be as long as the system is healthy in terms of gameplay (botters, RMT, etc.)

Another question from the CSM was how much of the Virtual Goods that will be introduced would be destructible. CCP answered that this was a question at the core of the Virtual Goods approach – perceived obsolescence or planned obsolescence. Either the need to replace Virtual Goods would come from the players themselves, where they perceive they have to have the latest thing, or through planned obsolescence where things deteriorate (or are destroyed) and must be replaced. It has not been decided what route will be taken in the matter, as the options are not mutually exclusive if applied to different items.

CSM asked what Virtual Goods CCP plans to sell. CCP stated that nothing had been planned in that detail yet, and it would not become clear what to expect of the Virtual Goods functionality until after the

release planning in January 2011, when the scope of the next release would be determined and the work decided – then and only then would it be clear if the functionality is to be expected in the next release or the one after.

The CSM reiterated their concerns regarding the influence of Virtual Goods on the price of PLEX, and CCP repeated that every indication pointed towards the PLEX market being healthy and capable of handling any changes in the supply and demand from players.

Any further steps regarding Virtual Goods or account services or other PLEX usages will be taken in conjunction with the CSM and in close cooperation with the community. The strategy regarding Virtual Goods was set with the CSM and it will be developed and iterated on with the CSM.

EVE economics

Present: CCP Dr.EyjoG, CCP Zulu, CCP Hammer, GM Grimm

Dr. Eyjo started the meeting by roughly laying out the three fold meeting agenda. First, a discussion of how CCP monitors the economy on a high level and what issues CCP is discussing internally; CCP hardly knows what is happening today, CCP does not know what will happen tomorrow and CCP might know what happened yesterday. This is a player controlled world with emergent gameplay and as such Dr. Eyjo is in a similar situation as real world economists. The second item is a review of the requests the CSM made during the last visit regarding PI and trade – a devblog is in the pipelines. And thirdly, a discussion of bounties and how much of these bounties are coming from regular gameplay or from bots.

CCP maintains a number of comprehensive KPIs (key performance indicators) regarding many activities related to EVE such as trade activity (number transactions, volume of each transaction), amount of ISK in the economy, amount of NPC bounty being paid out, the RMT price of ISK, number of PvP kills, jumps per subscriber, missions run per day and more. The numbers are updated at least on a monthly basis and give an overall indication of EVE's health.

Comments were made by the CSM about the number of PvP kills per 1000 subscribers per day (standing in 19.12 for November 2010, down from 19.24 in October 2010) and the possible reasons for that decline. Also, the CSM inquired why there was a rather substantial downswing in market activity (transaction value and volume per transaction) in May 2010 – the answer being the deployment of Tyrannis.

Dr. Eyjo started out by pointed that a 'red arrow' (signaling unwanted change) at the CPI (consumer price index – an indicator of whether there is an inflation or deflation in the economy) while it is standing at 1.7%, is not because the CPI is really high but because the trend is changing from deflation to inflation. Is that good? It could be good but if the index goes higher and the economy is not producing more, then it is bad. So the question is whether the inflation is due to increased demand, increased speculation or due to costs increasing?

The CSM pointed out that if people are sitting on hoards of cash then a little inflation might be good – it would encourage people to spend their cash and/or earn more, thus creating activity.

Dr. Eyjo responded that it could also mean that the tech I item prices would go up, which would make the lives of newbies more difficult.

There has been deflation in the EVE economy over the course of the years with two sharp turns in June 2005 (building outposts in Exodus and more) and in December 2006 (tech II invention in Revelations). Usually deflation means, in economic terms, lower demand – but it could also be attributed to technical progress (such as the amount of processing power one gets for the same amount of money now compared to 1995) or lifting of monopolies – such as what happened both with allowing players to build Outposts and with invention, where everyone could supply tech II stuff. The components of the index basket are updated every month instead of every 5 – 10 years like in the real world, and as such the index for the EVE economy is very accurate.

The price of ISK for dollars on various sites that offer it – illegally – is closely monitored. And with the introduction of PLEX, this monitoring has been redoubled. The trend is that the sites offer ISK for about 20% to 30% less than the PLEX does. There is the problem of CCP not knowing the exact volume of ISK that goes through these sites, so the price changes monitored cannot be weighted as the PLEX/ISK ratio can be. Furthermore this does not include sales of ingame items between friends or organization members – and it would be very difficult to do so – but the impact of CCP's Unholy Rage is quite visible in these numbers.

The PvP index shows decreased activity – an index CCP built to monitor PvP. The index indicates that PvP activity has been declining in recent months. But why is decreased activity on this front bad? Because PvP is the driver of consumption and fun in the game – less destruction means decreased consumption. It must be stated that the index does take into account the increase in subscriber numbers, thus a decrease is a bit worrying. The decrease is not due to fewer, more expensive ships being destroyed.

Now there has been an increase in the PvP activity visible in November, but that could be attributed to recent 0.0 conflicts; several large campaigns are being run in parallel. There were several explanations offered in the discussion between the CSM and CCP to explain this, but no solid one could be offered. Several spikes have been noticed in the past; the largest were attributed to the Delve campaigns around Dominion.

One hypothesis was offered by the CSM was that older players (older than 2 years or so) were still fighting as usual, while the newer players (younger than 2 years old) were not participating in PvP in general. Although the data gathered by CCP at this time cannot answer that, it is quite possible to investigate. Increased wormhole activity could also explain a part of the decrease.

The CSM also offered the explanation of the gameplay style simply moving away from smaller skirmishes to have only large fleets engaging. From this, it follows that fleets would simply not engage other fleets without a superior number of super capitals and in some cases smaller alliances, who don't have large fleets of super capitals, are not willing to engage larger alliances due to the danger of hotdrops that are

unbeatable. It has gotten to the point of people avoiding fights rather than actively seeking them – perhaps it has come to a point of a Coldwar status.

But the question remains what specifically changed in the gameplay that does decrease the PvP activity. Granted the index does not include things that are fought over, only destroyed – so structures put repeatedly into reinforced would not count in the index, something that will be looked into and attempted to be incorporated in the future. The conclusion is that from an economic standpoint it is worrying that the PvP index is low because that is the machine that drives the whole universe.

When asked about what Dr. Eyjo believed was the reason for this decrease the answer was, in short, the activity, and the comfort, of being able to upgrade systems kept people occupied for a while and now decreases the reasons for venturing outside to acquire new sources of income – i.e. taking them away from others. The CSM pointed out that the people upgrading the systems are not the same people that are doing PvP – and thus this could not necessarily explain the entire situation.

The CSM expressed concerns about the number of Super Carriers being churned out the past few months as is evident from the 3rd Quarter QEN (<http://www.eveonline.com/devblog.asp?a=blog&bid=822> page 39) rising from around 70 produced per month in March to over 160 produced per month in the 3rd quarter of 2010. With the Super Carriers being the new 'I win' button, more and more players focus on those.

Jumps per day (including all jumps regardless of method) have decreased a little, missions rewards per day have increased more than missions completed per day, indicating that higher level missions are being run more now than before. The CSM commented that although the missions rewards in ISK was increasing, the overall ISK earned for missions decreased because of loot changes. Dr. Eyjo answered that this only monitored the flow of ISK into (and out of) the economy, it did not take into account loot or bounty payouts. It was CSM's estimate that before Tyrannis the income of level 4 missions was around 70 million ISK per hour and is only about 40 million ISK per hour after Tyrannis.

The discussion was then directed to PI materials and hoarding of those materials. The situation of being able to sell items to NPC buy-orders and the hoarding of the materials before PI hit. A baseline of items was established based on past usage and then the supply of those materials investigated in light of that. The CSM offered some stories of how various organizations aggressively bought up items and were then flooding the market after PI hit. Generally CCP does not mind if players speculate in their investments, but in the PI case CCP's implementation was flawed as such and players took advantage of that. CCP's estimate after an investigation is that a short-term disruption occurred, but in October and November the markets were showing signs of stability, and thus it can be stated that the rush in June did not have long term effects.

CSM requested a devblog on this back in June and Dr. Eyjo stated that the devblog, where the numbers and information was coming from, is being delivered late but he wanted to have concrete data before doing so. The blog is upcoming, pending reviews. It is clear that CCP did make a mistake with NPC trade goods in the process of rolling out the Tyrannis expansion.

During the October visit both Hilmar (CCP Hellmar) and Dr. Eyjo said that the EVE economy was broken – CSM’s question is how is it broken and how is it going to be fixed? A second question directed at Dr. Eyjo was that the QEN is viewed by many players who are very engaged in the economic side of EVE that it was often wrong, drawing incorrect conclusions and therefore they find it completely useless as a tool to further allow them to enjoy their gameplay.

Dr. Eyjo’s response, starting on the second question, was that this is the case for any and all economic reports published in the world. There is no single truth that can be the fundamental cause for a single result due to the size of EVE’s economy. CSM’s response was to express disbelief because CCP has all the numbers regarding EVE and should therefore be able to report accurately on everything. Dr. Eyjo replied that this is not a true assumption. The logs do not show everything and therefore many assumptions have to be made by CCP when analyzing the economy. A counter question came from CSM was how could CCP not have all the numbers? The answer is that not everything is logged in order to optimize the performance of the cluster. Furthermore, extracting a person’s intention from that person’s behavior is not a trivial thing.

As a response on the criticism that EVE’s economics team did not release reliable and usable results – Dr. Eyjo’s answer was to encourage players to provide comments on the QENs to help the team to refine and hone their methods and analysis.

On the first question Dr. Eyjo’s response was that CCP’s hasn’t been efficient in controlling the introductions of sinks and faucets. Those areas need special attention, however it is not a trivial thing to add or remove sinks and faucets.

One large faucet is bounty payments for killing NPCs. CCP has been monitoring this closely as this introduces ISK directly into the economy (unlike if a module drops and is then sold – no ISK is introduced to the economy, it only changes hands). The total money supply has been, for a long time, growing at an unsustainable rate – around 5% per month which is more than the economy is growing by per month. After Unholy Rage CCP believed that they had the money supply growth under control. Then came Dominion and Tyrannis, and following that the bounty payouts started to increase again. It is not clear what is the main cause for this; a) upgrades of 0.0 systems, b) bots being used (that perhaps use the upgrades in 0.0) or c) are the RMTers back doing something CCP doesn’t know about? The CSM asked whether the largest bounty faucet component(s) couldn’t simply be dialed down, but that might not necessarily be the answer.

As a response to this there was a consensus from the CSM that belt ridding had decreased significantly. The reasons for that are not fully known at this time and will be investigated.

The CSM asked whether there were any plans to increase sinks. Dr. Eyjo’s answer was that it was possible to simply increase taxation on everything to create a sink, increase other fees and charges – raise cost for offices, in the LP stores, etc. – but those methods are not favorable as they are just as likely to drive up the prices of things and thus achieve nothing. The LP store might offer a more useful solution, by offering more items through there for more ISK and perhaps less LPs. Those possibilities have however not been investigated thoroughly, and no decisions have been made yet regarding the introduction of new sinks.

Discussion then turned to the issue of botting and RMT, and what could be done to reduce their impact on the game. As this discussion involved potential countermeasures, it is sealed under NDA.

Finally the CSM asked whether the economics group in CCP imposed guidelines and procedures on the game designers when it comes to economic matters, specifically when introducing new sinks and faucets. The answer is a resounding 'yes', the economics group is working closely with game design when it comes to new features. That might however not be enough because usability cannot always be predicted.

Wrapping the session up, the moderator asked whether there an agreement between CCP and the CSM that there is a problem regarding the economics of EVE. While the CSM gave a strong yes answer, Dr. Eyjo replied that there are certain signs that there is instability in the system that are not healthy, but overall the economy is functioning as expected.

EVE UI

Present: CCP Explorer, CCP Karkur, CCP Optimal, CCP Bella Bee, CCP Sharq, CCP Frellicus

CCP started off by showing the new neocom (<http://www.eveonline.com/devblog.asp?a=blog&bid=831>) and gave a detailed feature demonstration of it. Following that CCP explained a new approach called 'Experimental features' that can be switched on and off in the Esc. menu – the neo neocom and a new contracts search will be tested using that new approach; both to test the experimental features and to test the new testing method. It is CCP's hope that this will permit more flexible testing and deployment of new approaches to client usability. This functionality will be closely monitored by CCP.

CSM encouraged CCP to not leave things too long as an experimental feature.

Corification of the UI was received with mixed feelings last fall, but this necessary housekeeping was necessary for greater things to come. Now that work is done further enhancement and changes will be possible – to begin with the lowest code level will be taken up first and refactored. Currently the code that draws the UI is very old and very slow and it is only now, after the Corification of the UI changes to this code are actually possible. Further down the line, a year or two, more visible things will start to happen to the UI.

CCP also went through the UI proposals that the CSM had raised and offered their estimation on the work needed to achieve what is being asked for. The items in question can be found both here [http://wiki.eveonline.com/en/wiki/November_2010_Prioritization_Crowdsourcing_\(CSM\)#Categorized_Results](http://wiki.eveonline.com/en/wiki/November_2010_Prioritization_Crowdsourcing_(CSM)#Categorized_Results)

and here

[http://wiki.eveonline.com/en/wiki/User_Interface -](http://wiki.eveonline.com/en/wiki/User_Interface_-_Big_Wins,_Fan_Favorites_and_Low_Hanging_Fruit_(CSM))

[Big Wins, Fan Favorites and Low Hanging Fruit \(CSM\)](http://wiki.eveonline.com/en/wiki/User_Interface_-_Big_Wins,_Fan_Favorites_and_Low_Hanging_Fruit_(CSM)). The classifications given were 'Done or In-Progress' with 26 items, 'Yes/should be easy' has 11 items, 'Not too bad... possibly' has 13 items, 16

items were labeled with 'Tricky/Expensive' and 6 with a big fat 'NO'. Next, CCP requested further explanation of the intended functionality on 3 items. Finally, CCP asked the CSM whether it was worth the work to implement 8 items as the immediate gain from the change could not be identified without discussion.

Due to the amount of topics on the list, only the items classified as 'NO' will be listed here:

- *More than 10 people in the watchlist*
 - Declined because of performance. What is being asked for is to allow more people on a list, what CCP suspect might be needed is to inform logistic pilots about whether someone is in trouble or not. CCP fully recognizes the need for a single pilot to keep more than 10 people alive at the same time – adding people to the watchlist is the most expensive (performance wise) way to do that.
- *Change wormhole scan result from Unknown to Wormhole (when presented to the CSM it was listed as a 'NO', however...)*
 - on further investigation this turned out to be simpler than first estimated, so it has been removed from the 'NO' list.
- *UI minimum size of HUD elements*
 - It's CCP's stand that all windows should look decent at minimum size.
- *Contextual menus should have keyboard navigation shortcuts*
 - The menus would not be future proof if CCP would implement this change. Most likely many players would stop reading the options and select them blindly with the shortcuts which would cause a lot of problems in the future when CCP needs to add more options.
- *Option to eliminate nebula backgrounds in the system map and in space (big win for color-blind players)*
 - Eve is a world that has a certain aesthetic and the nebulas are an intrinsic part of that experience. CCP will approach this problem as a UI problem, piece by piece. CCP does not believe that it is solved by destroying the immersive elements of the game and its graphics.

The other issues estimated by the EVE's Software department will now be managed and worked on as time and resources permit as part of future releases.

It was noted by the CSM that this session was a sign of changing times for the CSM – where CCP simply estimated and accepted several tens of topics instead of hosting entire summits for that sole function like in the first CSM summits.

When asking clarification questions about why the 'widescreen' mode was removed as that was being used by players to add further functionality to the HUD (both in regards to the ship's modules and what is targeted), the answer was that it was removed due to aesthetics reasons. The CSM stressed the point that this functionality was removed by CCP when it was unaware of the unintended usage by the players. Introducing a change to achieve the same effect will be continued to be emphasized by the CSM.

The CSM further stressed the need to keep colorblindness in mind when making changes to the UI so that affected players will not be left out in the cold.

CSM also inquired about information regarding the module cycle timer and its unreliability as such. The answer is that this reports changes made by the server and can easily be affected by latency – the server could send the 'active' information to the client and the cycle timer jumps by 25% because of latency. There are several possible causes: timesync on the server, Internet lag, load on the node and other matters. Because of this complexity, there is no simple answer to why the cycle timer is sometimes inaccurate.

Finally the CSM advocated their case for slash-commands. Their use case was how to convo someone. Instead of having to go to People and Places, search for the character, right-click the character and select Start Conversation. Why not use '/ EVEcharactername'? This was not a plea to move the functionality of Convo to only slash commands, but to add that feature. No specific answer was given by CCP at this time as this had not been estimated in terms of effects or usage.

EVE QA

Present: CCP Heimdall, CCP Oneiromancer, CCP Solomon

This double-session began with a comprehensive presentation by the EVE QA department, giving a broad overview of the EVE Quality Assurance process. After the presentation, there was an extensive question-and-answer session; for clarity, a few of these questions have been folded into the overview at appropriate points.

EVE QA Overview

EVE QA, which is distinct from the QA departments for other CCP games and for CORE development, has QA responsibilities for not only the game itself, but also associated features such as EVE Gate.

EVE QA cannot veto the deployment of a feature, but does provide risk assessments and recommendations that carry significant weight in those decisions.

QA deals not only with bugs, but also with systemic risks (processes, communications, and documentation for example) that can affect the ability of CCP to deliver.

QA works closely with Operations during deployments.

QA not only works with the programmers, but also with the artists, and coordinates the art teams with the programming teams.

Engineering QA develops testing tools to make testing more effective.

Localization QA is a new unit dedicated to improving localization efforts.

QA Live handles testing issues on the current live server build.

QA "rents" testers to the feature teams as needed, and they are embedded into those teams.

EVE Development Overview

As is well known, CCP uses Scrum for development, and maintains multiple code branches and test servers. Integrating all this effort can be challenging at times.

A full build of the EVE server and client software can take between 4 and 7 hours; a full regression test requires 8 people and 8.5 days to complete. "Full" in this case means the complete set of tests that CCP has developed; a truly complete test is impossible.

Development branches are merged into the main development branch about once every two weeks. Keeping lots of programmers from accidentally stepping on each other's toes is challenging, and requires a lot of communications. CCP is evolving their procedures so as to detect and address these conflicts as early as possible.

All of this complexity makes life interesting for QA.

In response to a specific question, QA does not anticipate any usual problems related to their role in Incarna development during the next release cycle.

Scrum has made QA's life a lot easier, although the staged release of Incursion will present a new twist on the usual challenges they face during a release.

The new experimental features (for example, the new NEOCOM) are not anticipated to require any changes to QA procedures; bugreporting for them will be handled in the same way as standard features. However, QA does intend to do some messaging to players in the hopes this will make it easier for them to report bugs in the experimental features.

Simultaneously running multiple large projects that touch large areas of the codebase (such as UI Corification, the move to the 64-bit inventory system, etc) does cause some coordination headaches, and CCP intends to move somewhat away from this in the future. However, staggered releases like Incursion, while they do impose costs due to parallel development and the time needed for a deployment (which is an "all hands on deck" 3-day event for QA), also have benefits – for example, a smaller release means less things to go wrong, and less things to check when something goes wrong, which is considered to be very valuable. It is a complicated balancing act.

CSM: Does QA prefer staggered releases?

QA: QA is pretty agnostic about them – for QA the costs and benefits are balanced – but since other parts of the company see clear benefits from staggered releases, QA is more than happy to go with them.

CSM: Do you foresee any problems with staggered releases?

QA: We see risks, but we see risks everywhere. However, this first staggered release has been very successful and popular, both with CCP and with the players.

The CSM feels that players are willing to wait for things as long as the reasons for the delay are properly communicated.

The GM department forwards bug-related petitions to QA on a case-by-case basis, but formal bug reports usually contain much more useful information. The GM's also regularly give QA a Top-10 list of issues to address.

Bug testing is more complex than it appears, since bugs must be replicated not only on the build they were reported on (a copy of TQ or Singularity) but also the current development server build.

CSM: How much non-technical (for example, player experience) feedback does QA give to Game Design? For example, “this is working as designed, but we feel the players will not respond to it as intended.”

QA: We do give some feedback of this type. QA also provides feedback during the planning process, helping to write the Agile user stories and doing time-cost estimates. It is much easier for QA to point out defects in a Word document than in 6 months’ worth of coding. Also, because QA staff is embedded in development teams, there is a lot of informal feedback. However, with respect to game design, some game designers are more open to accepting feedback from the team than others.

CSM: What can the CSM do to help QA?

QA: The #1 thing would be encouraging people to participate in the mass-tests. Even though we now have tools like the thin client, the mass-tests are still very useful. Human behavior is quite different from bot behavior.

Using the bug-reporting system, and submitting detailed bug reports, is also very helpful. While it is a wide funnel and a long pipeline, bug reports do result in defects, and defects will get fixed.

Finally, CSM can help give the players a better understanding of the QA process. Often when there is a problem on Tranquility, players leap to the conclusion that “QA messed up again,” when often this is not the case. Bugs do get past QA (obviously), but a huge number get caught before they go live.

CSM: One issue with the bug-reporting system is that because it is not public, 10 players might report a particular bug, and each of them might have different pieces of the puzzle. Doesn't this result in a lot of duplicated effort, both by players and bug hunters?

QA: At present, there are significant concerns about exposing the current bug-tracking tools to public view. However, we are looking at ways to address this.

The CSM feels they have a better understanding of the scope of QA's role, which is clearly larger than most people outside CCP appreciate.

CSM: Can you provide an example to illustrate what happens on patch-day?

QA: Most of the heavy lifting on patch-day is done by Ops, prepping the servers with the new build, running database updates (like removing learning skills, for example), and so on. Then the server is brought up in VIP mode, and QA logs on to do smoke-testing and quick tests of new features. Then the auto-patcher is turned on and patches for the 4 most recent versions of the client (both Windows and Mac) are tested; if these test out OK, then the server is opened to the public.

CSM: What happens when you find a serious problem? What does QA do?

QA: QA attempts to get an idea of the scope of the issue, and consults with the GM team to estimate the impact on the players, and whether there is a workaround that can be communicated to the players (which buys time to resolve the issue with less time pressure). If the problem must be fixed ASAP, then the resolution path depends on what needs to be fixed – Is it client- or server-side? Is a full patch needed, or can a client update be used? Using a client update (formerly known as an optional patch) is much faster.

Changing the name from “optional patch” to “client update” increased the uptake to 94%.

CSM: Why was there a stream of optional patches in November? The player perception was that these were multiple failed attempts to fix problems.

QA: We quickly identified a number of issues that needed fixing, and as soon as we had fixes for one or more of those issues, we would issue an optional patch to fix those, as opposed to waiting until we had them all fixed.

CSM: How does QA know what to test? Do teams provide documentation?

QA: Individual testers work with particular teams, and are responsible for QA on the team's stories. As stories are developed, they develop testing plans to check functionality. On patch day, they do a dry-run of the feature.

The testing plans are documented and are the basis for regression testing documents that are used by external testing partners.

What players see on Tranquility is the tip of the iceberg of defects; during the development of Planetary Interaction, about 2000 defects were logged, but only about 5% came from players on Tranquility.

CSM: The November release was unusually painless. Did you do anything differently, or do you have any explanation for why it went so well? Or was it just blind luck?

QA: We are always aiming for perfection, but testing is a strange beast, and there is always something that will surprise. Further, there is a tendency of players to lump things together and incorrectly assign blame. For example, after the patch on Tuesday (December 14th), the problems actually had nothing to do with the patch. Improved communications may help here.

CSM: If a last-minute change causes a show-stopping problem that is discovered late in the process, does QA have the power to call a halt and revert things?

QA: We have the power to make strong recommendations, and have in the recent past advocated for delays and been heeded. Show-stopping problems are the easy calls for everyone to make. With respect to reverting, we first look to see if we can fix the problem before we consider reverting. These decisions are jointly made by a fairly large group of people, but Arnar, as senior producer, is perhaps the only person who has the authority to unilaterally make such decisions.

CSM: How much influence does QA have? There are some players who feel you should have the authority to delay things or pull the plug if need be.

QA: We cannot make those kind of decisions in a vacuum, but we are closely listened to, and if we can make the case for an action, it is taken very seriously by everyone involved. QA recommendations carry more weight now than they have in the past.

CSM: We would like to see your role being made more clear to the players, especially in light of the progress that has been made in living up to "Excellence." If you go the Devblog route, we would suggest using concrete examples to illustrate the process, and doing so on a personal level – it is easy for people to bash a nameless, faceless entity; harder when there are clear individuals on the other side of the screen.

CSM: It would be greatly appreciated if, when there is a patch delay or other problems, that you describe the problem in more detail than you have done in the past.

QA: We understand this, to a certain degree. The trade-off is that when these things happen, we are concentrating on getting things fixed. Also, patch delays are not always related to QA – there could be hardware problems or a database update might be taking longer than expected.

However, we will keep this in mind.

CSM: We have been told that it is a hard requirement that loading the Incarna environment will not take longer than the current station environment. This should be easy on newer, more powerful client computers, but where will the line be drawn with regards to keeping this promise on older machines?

QA: Performance and platform testing is done by outside partners during every sprint, so we will be able to monitor such issues. We should also be able to get a custom test arranged to track this particular issue.

The team responsible for a particular feature develops a test plan, and then coordinates with QA to get it implemented.

CSM: What is the most hilarious last-minute bug you've caught – ones that made you ask yourself “How on Earth did we miss that?”

QA: Last-minute bugs are usually pretty edge-case or related to last-minute changes, so they are not really that interesting. The new character creator has a lot of hilarious defects – but it's not live yet.

CSM: Do you get sufficient documentation out of the programmers to properly do QA when you merge branches?

QA: This is something that naturally gets handled by Scrum. People still tend to think that development is very “waterfall”-ish (the previous process used by CCP), and people are just throwing things over the walls to other departments. But since QA has staff assigned to the scrum teams, the required information is available. The teams are responsible for making sure that the right code branches get properly updated. Given the speed at which development operates at CCP, after a certain point, documentation requirements become onerous and pointless overhead. It helps that CCP has a very flat structure, and informal interactions are usually more efficient.

CSM: But what happens when a person with unique knowledge leaves the company? The example most cited by the players is that of the POS code, which is rumored to be “untouchable”.

QA: Some of these stories are perhaps exaggerated. We don't document a lot but we do document. Also, team development means that if one person gets hit by a bus, things can still proceed. It is true that there is less documentation on legacy features than on more recent ones.

CSM: Who does the player documentation?

QA: This is done on EVElopedia by ISD (outside volunteers). Also, GM's interact with teams.

CSM: There are however tons of undocumented features, keyboard shortcuts, etc.

QA: These are sometimes handled in devblogs. The situation is not ideal but it is getting better. We want to have more usage documentation because it helps not only the players but also GM's.

The CSM thinks it is a bit silly that there are features in the game that practically nobody knows about (example: the jump range planner view). In order to RTFM (read the fabulous manual), there has to be a FM (fabulous manual).

The CSM ended the meeting with the standard request for devblogs, and QA responded that they plan to release a series of them.

CCP Core

In Attendance: CCP Unifex, CCP Explorer

The goal of this session was to provide the CSM with a more in-depth understanding of CCP's Carbon framework. CCP summarized Carbon as a core technology framework which provides developers with a toolbox for building MMO functionality and content in an AGILE-integrated manner. It can be thought of in layers, with the bottommost layer being common to all games, while other layers above that are—or may become—in varying degrees specific to individual games. It is an internal technology; there are no plans to make it publicly available. The technology pieces that comprise Carbon help support production, asset pipelines, tooling, and other common development activities, with some game-specific pieces augmenting that as needed.

CCP noted that Carbon comprises a fairly significant part of the current EVE code base.

There are several reasons why CCP decided to make the technology investment in Carbon. With Carbon, CCP is able to base all of its games on the same underlying technology framework. This speeds development and allows all CCP games to benefit from the lessons learned and technology investment from 10 years of EVE development. Second, when working with globally-dispersed development teams, having a common technology framework means that everyone is working from the same page, which results in lots of efficiencies and maximum flexibility in managing development resources. This will allow CCP to build and evolve games faster and more reliably, which is necessary if CCP is to outpace potential competitors.

CSM inquired about overheads associated with having to tailor general code for use in a given product. CCP acknowledged this concern, and explained that was one reason they would never make Carbon so generic it could be made available for public use. While a common codebase underlies multiple CCP products, there is still a level of customization that supports development efficiencies on a product level. However, CCP also acknowledged that there is a tricky balancing act when creating an architecture that involves a shared codebase but can also efficiently accommodate the individual customizations for each IP. It might be seen by many as easier in the short term to build games individually but in the long run, the more difficult approach being taken by CCP will pay dividends in terms of development flexibility, speed, and maintainability.

CSM referred to a comment by CCP that network traffic for an avatar-based game was higher than for a spaceship game and asked why that was true. CCP replied that it was related to the difference between avatars being more “twitch based” and spaceships being based on a physics engine running at 1 frame per second. Thus, updating clients once a second requires much less network traffic compared to updating clients more frequently to cope with avatars. CCP commented that work done in Carbon to support this higher network data load was giving good results. CSM asked how this would benefit EVE. CCP replied that it would allow Incarna to happen – and a side result is that CCP will then have a network layer that is able to handle significantly more throughput than before.

Being able to source from all their talent worldwide for a given expansion is a key strength for CCP. The first time this was done was with Apocrypha. While there were some issues that needed to be ironed out because it was the first time CCP had attempted such an enterprise-wide expansion, it was extremely successful. With Incursion and Incarna in the immediate future, Carbon is making global development more streamlined than ever, and allows CCP to bring in talent from different locations who can hit the ground running with very little startup overhead as they are familiar with a single, shared technology.

CCP stated that the Core Technology Group, which was put in place in 2007, is a completely independent group within CCP, existing alongside EVE, World of Darkness, and Dust projects. It has its own budget, hiring plan, developers, QA engineers, etc., and consists currently of around 35 people. CTG focus is not on writing any game-specific code. Activities focus on Carbon framework development as well as keeping current and informed about changing technologies that may impact that development. Although an independent group, CTG maintains a very active two-way dialog with other development groups within CCP to ensure that needs are being met on both sides. CCP noted that Core team also works on relevant bugs passed over by the EVE team. Occasionally people from EVE will join the Core team to become more familiar with the Core technologies so that when they are deployed for use by the game development teams there is expertise on those teams (and sometimes vice versa).

CCP identified the three high level groups that comprise Core: Core Graphics, Core Infrastructure, and Core Cluster.

Core Graphics group is the biggest group, responsible for the Trinity graphics engine and tools related to it, as well as integrating new graphics technology into the graphics engine. CSM referred to a demo of lighting effects shown at a previous FanFest and asked how long something like that would take to be integrated into the game. CCP replied that they really started hammering on lighting in mid-2009 and the integration for that was completed over summer 2010. Part of the reason for the time it took was iterations resulting from feedback from artists and subsequent work with the developers of some of the underlying technology pieces to address that feedback. CCP clarified that this work was related to Incarna, not spaceships.

Core Infrastructure group focuses on the shared technology components, patches, and building. They work closely with EVE software, QA and deployment folks. They produce the patching tools (like the new “smart” one that only downloads what you need for a new build instead of the entire client every time) and automation tools for testing and integration. This group also built the thin clients which are being used across the company.

Core Cluster are the “very clever” distributed computing specialists who maintain the current cluster code and look at how to meet the ongoing challenges ahead of CCP as its games evolve. CSM asked if this group was the one working on improved I/O technology that the CSM was told about in October – the answer was yes.

CCP observed that a lot of what Core does is essentially “under the hood” and it can be difficult to precisely identify Core’s specific contributions to EVE due to collaborative work with other teams in joint efforts to improve the game. However, as examples, CCP cited the integration of EVE Voice in

Revelations II, efforts to improve CCP's implementation of Stackless Python, the Trinity 2 graphics engine that works with DX9; Stackless I/O introduced in Quantum Rise, the move to 64 bit EVE servers; the graphics technology underlying T3 ships in Apocrypha, a new audio engine, and new asteroids—all of which were made possible by graphics-related technology upgrades that essentially permitted “window in window graphics” – one example of which is the ship fitting window in which you can spin your ship. CSM asked whether the asteroids weren't mainly an art initiative. CCP replied that yes, there was a lot of art involved in it but how that art gets rendered was also updated; that, the Core team was responsible for. In Dominion, the Chrome in-game browser had key Core Cluster involvement—an individual with Chrome expertise was hired specifically for that task. It was noted that Chrome was just one example of a very successful collaboration between the Core and EVE development teams. In Tyrannis, Core contributed to PI and ship graphics, as well as a number of client performance improvements.

CSM commented that after Dominion there was a huge increase in lag and asked whether that was something that was in the domain of the EVE team or the Core team. Much laughter ensued and CCP responded that it was probably a bit of both; Dominion was more of a tipping point where some new bugs on top of existing, long term code in the game caused the problems. These new bugs were contributed jointly by Core and EVE and included some memory leaks, database session starvation issues and game mechanics issues which helped push things over the cliff. In addition, changes in player behavior (in particular, increased missile spam due to increased use of Drakes) in response to the new conditions made things even worse.

CCP then addressed corification, some best practices that arose out of lessons learned from EVE, thin clients, the Jessica toolset, dev tools, and a variety of other topics to further illustrate the varied responsibilities of the Core team. The Core team also now provides tools used by video developers when they create new EVE trailers.

CSM asked how EVE movies were created in the past. CCP replied that it was very complicated procedure using the Trinity rendering engine requiring setup of curves for ships to fly along, with all associated timed attribute setting changes as needed, among other complexities. That approach was very technical and fiddly, requiring programming skills and thus making it far more difficult and time consuming to produce videos. Core has made this process a lot easier, as well as increasing the quality of renders and other stuff so that even better movies are possible.

Managing the shared code server is another big job that Core does, a job which has gotten more challenging over the last year as the amount of corification increased, especially related to Incarna and the character creator. Some hard lessons were learned in that process which allowed the Core team to make great strides in streamlining and improving the character creator and how CCP manages the codebase.

CCP then described the Core organization structure. Essentially there is a management layer, a product owner layer, and then graphics and development teams. Notably, there is an EVE Core Graphics team which has three Core Graphics developers permanently assigned to working on EVE.

CSM asked how much “passing around of the hot potato” happens when a bug, for example, occurs that is not clearly identifiable as a Core or EVE software responsibility. Also, what happens when there is a conflict in direction or what is needed to address a problem between Core and, for example, EVE product managers?

In reply to the first question, CCP acknowledged that such things do happen and stated that each situation gets analyzed so that responsibility can be identified and assigned. Having good working relationships helps smooth that process. CCP noted that it is easier to do this with EVE because the developers are all on-site, whereas for other products it can be more challenging since those folks are not in Reykjavik—which does necessitate some amount of travel for on-site meetings to work through things that are simply better done in face to face. The key thing is that Core exists to help make the game better, not to make Carbon shiny just for the sake of it. So, when a problem arises, everyone pitches in to get it solved.

In answer to the second question, CCP stated that conflict management is usually fairly straightforward. Partly that is due to having a very clear mission statement from CCP’s executive management about where Core’s focus needs to be. And as Core does not write game specific code but has the aim of bringing “battle-tested” technologies to all of CCP’s products, any advances made on one project will propagate to the other products.

CSM asked if developing a shared codebase and toolset introduces new complications to the game development process. CCP replied that it is sometimes very difficult to migrate legacy code to newer frameworks, and this has required supporting multiple versions. Given limited resources, however, this is often necessary and preferable to just ripping stuff out and starting from scratch. Core does spend a lot of time with game teams puzzling out the best way to cope with the requirements. However, the benefits of corification are becoming more obvious all the time.

CSM then asked if there were concerns that as games in development matured, shared content development toolsets might impose constraints on one game while being perfectly suitable for another; how does CCP plan to address that issue if it were to arise? CCP replied that the goal is not for everything to be shared by all games. So in the scenario described, a collaborative judgment call would have to be made to determine how best to address the issue.

CCP then went on to discuss more about what the EVE Core Graphics team has accomplished, giving several examples. In Dominion, they continued to move graphics to the Trinity 2 engine. This involved improvements to the graphics technology underlying planets, camera view, and star fields, and of course lots of bug fixes (the backlog of bugs is never-ending!). In Tyrannis, they did the graphical support for holographic structures, improvements to shaders, PI planetary scanning, graphics for suns, client performance improvements, and bug fixes. In Incursion, they worked on the new ship, resizable windows, anti-aliasing, horizontal offset, and bug fixes among other things. CSM asked what exactly the Core team had to do with the new ship as players might assume that would have been Art’s responsibility. CCP discussed the technologies that Core contributes to the “building” of a new ship such as getting the shaders right and so forth—all of which come after the fact of the ship’s visual design.

While Core does contribute to the production of a new ship, the amount of work required varies greatly depending on many factors.

CSM asked how difficult it was to implement resizable windows. CCP replied that it was reasonably difficult. A lot of work had been done at the frameworks level that fed into it and made the change possible. But as usual, even while it was possible to DO resizable windows, making them work correctly involved addressing a whole bunch of issues and problems that became apparent once the teams began to dig into it.

CSM asked about rendering improvements and loading of windows in the game client. For example, opening a Show Info or new chat window causes the whole screen to freeze momentarily. Is this an issue that the Core team's technology is going to address? CCP noted that they are moving over to a graphics framework that is capable of dealing with multiple things changing at the same time much more easily. However, it is a process of migrating individual in-game components to that technology over time and this is prioritized by EVE Production. CSM mentioned the extreme lag encountered when opening the Applications tab in the Corp window when there are lots of applications to be loaded, which freezes the whole screen until it completes. There was some brief discussion by CCP about what was happening in the client related to these issues.

CSM observed that there are many cases where the visual lag or client freezing known to be associated with certain actions could be avoided by simply not doing those actions when the expected lag would present a problem. However, in other cases—such as when a contact logs in and their icon is displayed on your screen—there is no way to predict or avoid the associated and often quite significant lag. CCP stated that particular problem was caused by the way icons are coded; it has been fixed in some places but not yet all.

CSM commented that in the Mac client, there seem to be more of these window-opening freeze issues than in the past (opening the Market was cited as an example). A brief discussion ensued.

CCP then moved on to discuss what the Core team is working on now and going forward. Activities include character creator technology, character movement technology, interior graphics for Incarna environments, avatar movement server (the server-side cluster component for Incarna), cluster networking and improvements, new patching technologies, and improved node remapping to support fleet fights. CSM asked what sort of improvements the improved node remapping would provide. CCP replied that the Core team is working to avoid problems seen in the past such as chat windows being screwed up and other weirdities when particular nodes or systems were remapped. Dynamic remapping is obviously a long-term goal but that is a gigantic challenge that will touch huge parts of the code base and will require enormous amounts of resources and widespread collaboration among the development teams. It was suggested by the CSM that players would probably not mind if all clients on a given grid to be remapped were paused for some predetermined amount of time to allow the remap to be accomplished and once done, clients were all unpaused at the same time. CCP concurred that such an approach was probably the only feasible one but doing it is a very non-trivial task. They are looking at it

but cannot even begin to identify a delivery timeframe. Good-natured teasing about the length of time and difficulty of the required changes ensued.

CCP discussed the Carbon UI technology, which is a framework being developed that will permit the implementation of a new UI. As a verbal teaser, CCP mentioned the 3-D UI elements shown in the beginning of the Causality trailer as being indicative of the kind of cooler UI stuff that the Carbon UI framework may enable. However, it is very, very early days for this framework. CCP also mentioned that an effects system needs to be developed to support improvements to the effects displayed in-game. CSM mentioned the players' desire to see the old cyno effect returned to the game, amid laughs and acknowledgements. CSM asked if there is an effects system being used right now to generate effects in-game. CCP replied that currently effects are essentially coded at a low level by graphics programmers. A key reason for the delay in getting back an impressive cyno effect is the desire to not code it as has been done previously, but to generate it via an effects system.

CSM asked if Core was the group CSM needed to nag about getting a flight or battle recorder that would permit players to replay battles, view fights from different angles, and so forth without lag—perhaps in a stripped down version of the client. A brief discussion of ideas for implementation and available resources ensued. CCP's response was that it would require a very close collaboration across Core and EVE teams and a lot of resources to produce and thus is likely not on the radar any time soon.

In conclusion, it was reiterated by the moderator that this session was intended to provide a detailed introduction to the Core team and its mission to the CSM to give them a clearer understanding about Core's role in the development and support of EVE. No deliverables or action items were identified during the session. CSM did ask if the Core team's slide presentation could be made public. CCP replied that they needed to check to be sure it was okay and if it was, the slides would be provided.

CSM ended by asking that the Core team produce more dev blog porn, a request communicated by players to the CSM prior to the Summit.