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**Author**



**Ter Fordal**



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Posted - 2007.11.08 22:58:00 - [1]

*Edited by: Ter Fordal on 08/11/2007 23:02:18*

### Balancing faction standings

#### How standings change

There are many different factions in eve and by running storyline missions for each faction your standings to that faction and its friends and enemies will change. For increases in standing you are awarded a % of the difference between your current standing and a perfect standing of 10. For example, if you are complete a Gallente faction storyline mission and are awarded a 10% standings increase then if your Gallente standing is 6 you will be awarded 10% of  $(10 - 6) = 0.4$  increase. If your standings were only 0.5 to start with then the increase would be 10% of  $(10 - 0.5) = 0.95$ , more than twice the increase.

So basically it is more and more difficult to raise standings the higher your standing is. It is as just as difficult to go from 9.90 to 9.99, 9.00 to 9.90 or 0 to 9. Now decreases in standing (due to completing missions for the enemies of the faction) work in a similar way, you lose a % of the difference between your standing and the worst possible standing of -10. So a 10% decrease from a standing of 9 is a massive 10% of 19 = 1.9 drop in standings but from an initial standing of -5 it is only a 0.5 drop.

### Derived standings

If you look at the standings tab for a particular faction you will see the factions relationship between its friends and enemies. For example, under the 'liked by' tab for Caldari we see Amarr give them a standing of 5.0, what this means is that if we get a 10% increase in Caldari standings from running a storyline mission then we get 4 tenths of this increase for Amarr also, or a 4% increase. We can view a faction as giving itself a standing of 10. Now under the 'disliked by' tab we see that Gallente give Caldari a standing of -5, meaning a 10% increase in Caldari standings leads to a 5% fall in Gallente standings.

Note that these relationships are not necessarily reciprocal: if we look under the 'likes' tab for Caldari we see they give Amarr a standing of 7 (rather than the 5 Amarr give Caldari under the 'liked by' tab, meaning running missions for Amarr increases Caldari standings more than running missions for Caldari increases Amarr standings.

Apparently there is a derived standings cap at +7 and -5, meaning you wont go above or below these figures via derived changes, however I cannot confirm or deny this (I don't run missions personally but this is an interesting maths problem).

Another point is that you will lose standings for killing a factions ships so it may be necessary to avoid certain missions if you are trying to raise that factions standings. This will become increasingly difficult if you are trying to raise multiple standings as discussed below but in principle you could avoid all faction losses via ship kills (have an alt do all the killing as a last resort).

The result of this system of derived standings and the fact that it becomes more and more difficult to raise standings as they increase, and easier and easier to lose them, means that if you want perfect standings with one faction you must have near zero standings (or -5 given the standings cap) with it's enemies. However, perfect standings are not needed but we may want high standings to either run missions for as many factions possible or to put up POS's. So the question is, to what extent is it possible to raise opposing faction standings?

First lets look at raising Caldari and Gallente standings together. They both have a -5 standing with each other so for every 10% increase in one there is a 5% decrease for the other. So if we carry on running equal numbers of missions for both we will get to an equilibrium point where a 10% increase in standings equals a 5% decrease (not a contradiction as explained in paragraph 1). This will occur at a standing of 3.33, not very impressive, can we do better?

Posted - 2007.11.08 22:59:00 - [2]



Ter Fordal



*Edited by: Ter Fordal on 08/11/2007 23:01:54*

Yes if we consider running missions for more factions. The factions considered are the main 4, Ammatarr, Khanid, ORE and The Servant Sisters of Eve (I will try to do some calcs including the others if people are interested, I forgot Mordu's Legion which is the only other important one for raising standings, I thought it was a pirate faction).

We find that running missions for Khanid 41% of the time and SSoE 59% of the time (assuming equivalent % gains for each mission run) results in standing of about 8.46 for both Gallente and Caldari (or will max out at 7.0 if there is a derived standings cap). Not bad at all considering they are sworn enemies. There are a couple of problems, namely that the % gains for each mission will be lower (only by 30% or so) as you are relying on derived standings and that as you are approaching 8.46 your gains will slow down as if you were approaching 10.0 by just running missions for one faction.

If you don't want to use SSoE then an alternative is Minmitar and Khanid in a 35:65 ratio which will top out at standings of 6.2 for each. It will also be interesting to see how faction warfare develops as it may be extremely handy to have high standings with opposing factions. If you are already have a high standing with one faction then you can use the same mix of missions to slowly raise the other to this optimum level without affecting

your high standing.

### Raising all four factions

We find that 4 factions need to be used to do this optimally, Gallente, Caldari, SSoE and Ammatarr with missions in a ratio of 21.6 : 30.9 : 38.0 : 9.5. This will result in standings of 4.95 for the 4 main factions. It is possible to actually work out the exact answer to this (most of these answers use numerical methods) by solving a set of four non-linear simultaneous equations (Mathematica FTW) which turns out to be:

$$\frac{(37220/1869) - (20/1869) \cdot (61741)^{0.5} - 0.5 \cdot ((74964800/3493161) - (2964800/3493161) \cdot (61741)^{0.5})^{0.5}}{(61741)^{0.5}} \sim 14.9517$$

(standing from 0 to 20 so = 4.9517) so we have some confidence in the validity of our numerical method.  
(yes I am a real maths geek!)

Without using SSoE the best you can do is a standing of 4.34 for the 4 main factions by running missions for Gallente, Caldari, Minmitar and Ammatarr in a ratio of 8.5 : 8.8 : 34.4 : 48.3. (Amarr unsurprisingly seem to be the worst faction to run missions for by this measure, nice subtle whack with the nerf bat?)

### Keeping enemies sweet

There are many other questions that can be asked. For example, what is the highest Gallente standings possible whilst keeping the other 3 factions above 0?

If we run missions for Amarr 9.1% of the time and SSoE 90.9% of the time we get Gallente standing of 9.51, Caldari 4.7, Mini 6.7 and Amarr 0.

Without SSoE you need to run for Gallente 57%, Caldari 1.4%, Mini 1.8%, and Amarr 38.8%, Khanid 0.24% and Ammatarr 0.83% (phew!) for a Gallente standing of 7.42, Caldari 0, Mini 4.1 and Amarr 5.3.

If you have any specific calculations you would like performed then feel free to ask or play around with the formulas below.



Ter Fordal



Posted - 2007.11.08 23:00:00 - [3]

The maths behind these calcs is shown below and Mathematica was used to optimise these equations under various constraints.

Let  $s_1, s_2 \dots s_8$  be your standings towards the 8 factions modified so the standings run from 0 to 20 instead of -10 to 10.

Let  $n_1, n_2 \dots n_8$  be the % of missions run for that faction (assuming equivalent % standings gains for each mission run).

Let  $F(x, y)$  be the +ve standings of faction  $y$  towards faction  $x$  (i.e  $x$ 's standing in  $y$ 's 'likes' tab, 10 if  $x == y$ , 0 if not in the 'likes' tab)

Let  $F'(x, y)$  be the -ve standings of faction  $y$  towards faction  $x$  (i.e  $x$ 's standing in  $y$ 's 'dislikes' tab but positive not negative, 0 if not in the 'dislikes' tab)

Then we find that:

$$(20 - s_1) * (n_1 * F(1,1) + n_2 * F(1,2) + \dots n_8 * F(1,8)) \\ = s_1 * (n_1 * F'(1,1) + n_2 * F'(1,2) + \dots n_8 * F'(1,8))$$

$$(20 - s_2) * (n_1 * F(2,1) + n_2 * F(2,2) + \dots n_8 * F(2,8)) \\ = s_2 * (n_1 * F'(2,1) + n_2 * F'(2,2) + \dots n_8 * F'(2,8)) \\ \dots$$

These basically say that at equilibrium (standings no longer changing) the gain in standings for each faction over a full cycle of missions must equal the loss.

Rearranging:

$$s_1 = 20 * (n_1 * F(1,1) + n_2 * F(1,2) + \dots n_8 * F(1,8)) / (n_1 * F(1,1) + n_2 * F(1,2) + \dots n_8 * F(1,8) + n_1 * F'(1,1) + n_2 * F'(1,2) + \dots n_8 * F'(1,8))$$

Specifically, if factions 1 to 8 are Gallente, Caldari, Minmatar, Amarr, ORE, Khanid, SSoE and Ammatarr then your Gallente standings will be:

$$s_1 = 20 * (10 * n_1 + 8 * n_3 + 2 * n_5 + 8 * n_7) / (10 * n_1 + 5 * n_2 + 8 * n_3 + 2 * n_4 + 2 * n_5 + n_6 + 8 * n_7 + 2 * n_8)$$

And similarly for the other factions.

Posted - 2007.11.08 23:21:00 - [4]



**Daerkannon Shimmerscale**  
Gallente  
Paxton  
Industries  
**Paxton Federation**



Thanks for doing this. I've realized for a while that optimal empire standings are somewhere in the 4.5 range, but could never quite fanangle the math to get an exact number. 😊

---

Honest officer, the dwarf was on fire when I got here!

Can't find a mechanical engineering agent? Need a non-Caldari Navy agent? <http://www.eve-agents.com/> for all your agent needs!



**Night Doc**  
Orekaria



Posted - 2007.11.08 23:30:00 - [5]

Yep, thanks again. This helps a lot.

Once, I reached the conclusion that keeping positive standing between empire factions would do negative standings against **all** pirate factions (if you focus on one empire faction two pirate factions **would stay with no negative standing**)

Its that still correct?

-----

- Target analysis
- Fit EVE window to monitor

Posted - 2007.11.08 23:52:00 - [6]

**Ter Fordal**

**Originally by:** *Night Doc*

Once I reached the conclusion that keeping positive standing between empire factions would do negative standings against ~~all~~ pirate factions (if you focus on one empire faction two pirate factions **would stay with no negative standing**)

Its that still correct?

Yep you are going to have to throw a few % of Thukker and other factions in to avoid them all bottoming out completely. I am going to add that data to my calcs to give some good mixes for avoiding bottoming out your pirate standings. Mordu's legion will probably change some of these results as well.

Posted - 2007.11.10 02:04:00 - [7]

**Night Doc**

Orekaria



And... I was today creating a jumping clone and we need 8.0 standing... so we probably should focus more on one of them

- Target analysis
- Fit EVE window to monitor

Posted - 2007.11.10 17:43:00 - [8]

**FT Diomedes**

Gallente

Ductus

Exemplo



**Originally by:** *Night Doc*

And... I was today creating a jumping clone and we need 8.0 standing... so we probably should focus more on one of them

You only need 8.0 standing towards a corp to get a jump clone. Not towards a faction.

Anyway, I much prefer to have high faction standings towards two Empire factions and let the rest hate me. The "free" faction ships are nice, even if it takes a while to get them.

Improvize. Adapt. Overcome.

Posted - 2008.01.23 10:35:00 - [9]

**Akita T**

Caldari Navy

Volunteer Task

**Originally by:** *Ter Fordal*

Bumping a great thread that doesn't deserve to die, and adding a little bit of information into the mix. Sorry, but the information in here is not QUITE correct, and I will explain why. I hope this info I post now will help the O.P. redo the calcs.

Force



Apparently there is a derived standings cap

Yes, there is a derived standings cap.

No, the derived standings cap is NOT identical for all combinations.

In fact, the derived standings cap is **precisely** the amount of "like" or "dislike" between the corresponding factions.

So, for instance, Caldari "like" Amarr at +7.00, and Amarr "like" Caldari at +5.00

Running missions for Amarr will increase standings with Caldari until you hit +7, running missions for Caldari increase standings for Amarr until you hit +5.

So... now you see the problem with SSoE/Khanid is ?

Yup, you can keep running them as much as you want, but the Gallente is capped at max +8 (SSoE), Minmatar at +4 (SSoE), and Amarr and Caldari at +6 (Khanid).

1|2|3|4|5.

Posted - 2008.01.23 14:37:00 - [10]



**Arrs Grazznic**

Poena  
Executive  
Solutions



Originally by: Akita T

Originally by: Ter Fordal

For example, under the 'liked by' tab for Caldari we see Amarr give them a standing of 5.0, what this means is that if we get a 100% increase in Caldari standings from running a storyline mission then we get 4 tenths of this increase for Amarr also, or a 4% increase.

Not sure if you mistyped that, but it's a 5% derived increase (not a 4% increase) for Amarr whenever you get a direct 100% increase in Caldari standings.

The increase percentage is directly proportional to the standings cap, further modified by "empire size".

So, yes, a direct +100% increase in Amarr standings would mean a 7% increase in Caldari standings, capped at +7.00 max.

The main empires have a size of "5", and there are seven of each "4" and "3" sized ones among the others.

Amarr and Khanid are "4" sized, SSoE, ORE and Mordu are "3".

So, for instance, while Caldari like Khanid at +4.50, since Khanid are just a 4-size empire, not a 5-size one, whenever you get a 100% direct Khanid increase, you only get a  $4.5 \times \frac{4}{5} = 3.6\%$  increase with Caldari, but at least it's capped at +4.50, not at +3.60.

However, Khanid like Caldari at +6.00, so whenever you increase Caldari standing directly by +10%, you also increase Khanid standing by  $6\% \times \frac{5}{4} = 7.5\%$ , however, the cap is at +6.00.

A while ago I worked out how the derived standings were calculated. The full formula is as follows:

Derived Standing Change = Primary Faction Standing Change \* ( Inter-Faction Standing Modifier / 10 )

Inter-Faction Standing Modifier = Secondary Faction/Es standing view of Primary Faction \* ( Primary Faction Size / Secondary Faction Size )

The Faction standing information can be found in-game by looking at the ælikes/Æ and ædislikes/Æ tabs in the Faction/Es details window and the Faction Size is detailed in the data extract. Further details of this can be found on [this page](#) with a useful summarised chart [here](#).

Cheers,  
Arrrs



**Ter Fordal**



Posted - 2008.01.23 15:37:00 - [11]

**Originally by:** Akita T

*Edited by: Akita T on 23/01/2008 10:53:52*

**Originally by:** Ter Fordal

For example, under the 'liked by' tab for Caldari we see Amarr give them a standing of 5.0, what this means is that if we get a 10% increase in Caldari standings from running a storyline mission then we get 4 tenths of this increase for Amarr also, or a 4% increase.

Not sure if you mistyped that,

yes should have said 5%.

**Originally by:** Akita T

The main empires have a size of "5", and there are seven of each "4" and "3" sized ones among the others.  
Ammatar and Khanid are "4" sized, SSoE, ORE and Mordu are "3".

So, for instance, while Caldari like Khanid at  $\pm 4.50$ , since Khanid are just a 4-size empire, not a 5-size one, whenever you get a 100% direct Khanid increase, you only get a  $4.5\% * 4/5 = 3.6\%$  increase with Caldari, but at least it's capped at  $\pm 4.50$ , not at  $\pm 3.60$ . However, Khanid like Caldari at  $\pm 6.00$ , so whenever you increase Caldari standing directly by  $\pm 10\%$ , you also increase Khanid standing by  $6\% * 5/4 = 7.5\%$ , however, the cap is at  $+6.00$ .

Here, this helps.

Sure, it complicates things quite a bit, but it should help.

Back to the drawing board ! 😊

Wow, never realised this empire size thing. Thanks for that. I think you can allow for this by just adjusting all the derived standings to an effective derived standing (eg just replace  $+4.5$  with  $+3.6$  in your example, and 6 with 7, whenever that derived standing is used you will always have the same ratio of empire sizes) so I will try to do that sometime. Presumably this works with decreases as well?

The new information about the standings caps is much more serious though, SsoE/Khanid will be a lot less useful than indicated by my first post as you say. The only result which is even nearly correct now is the max of 4.34 with the 4 main factions by running missions for them plus ammatar. I'll have a look at this and try to update the OP.

CCP ruined all my lovely maths. 😞

Posted - 2008.01.23 18:07:00 - [12]



**notaway**  
Minmatar  
Republic  
Military School



gobblety \*\*\*\*--now if it was in english it might be helpful. Meanwhile I just run missions for Republic Security Svcs or Kaalakiota in bunches. When one faction group starts to go down too much I switch to doing missions for the other corp which causes them to go up and the other faction to go down. Whatever.

Posted - 2008.01.24 02:37:00 - [13]

Edited by: Akita T on 24/01/2008 02:39:19



**Akita T**  
Caldari Navy  
Volunteer Task  
Force



Originally by: Ter Fordal

Wow, never realised this empire size thing. Thanks for that. I think you can allow for this by just adjusting all the derived standings to an effective derived standing [...]



Or you could just take a look at what AG posted:

 **Originally by:** *Arrs Grazznic*

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useful summarised chart [here](#)

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The way to read the charts is like this:

The top chart (labeled "In-Game Inter-Faction Relationships") is the "caps" chart. On the top you have the "faction you just did the mission for", and reading from top to bottom, you have the max/min cap (on the left you have the names of the targets for which the cap is applied).

The bottom chart (labeled "Derived Inter-Faction Standing Modifier") is self-explanatory. You read it from left to right, that is, a 10.0000[%] direct increase in "left-side faction name" will lead to a derived increase/decrease of whatever's marked in the table for each of the "top-side factions".

Granted, if you want to do matix calculations, it would be a lot more helpful to work with a transposed version of the top table instead (so you could "read both from left to right", as opposed to reading the first one "top to bottom").

[1](#)|[2](#)|[3](#)|[4](#)|[5](#).

Posted - 2008.01.24 03:06:00 - [[14](#)]

---

akita i really love you



**SexehGallente**  
Gallente  
Federal Navy  
Academy



**Hugh Ruka**  
Caldari  
Exploratio et  
Industria  
Morispatia



Posted - 2008.01.24 11:01:00 - [[15](#)]

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Usefull information in large heaps in this thread ... GREAT

Now can somebody provide information for InterBus ? Reading the charts correctly, it gives positive cap on each empire (pirate excepted). But some are pretty low (0.25 Amarr).

So can I rise my standing to positive levels (0+) with all factions when missioning for InterBus ?

Oh and to the caps work also on the negative side ? f.e. Amarr -> Galente is listed as -2.0, so theoreticaly I can't get lower than -2.0 with Gallente when I mission for Amarr ?

 **Originally by:** *Aravel Thon*

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 **Originally by:** *Nith Batoxxx*

---

Hi my alt just learned to fly the ferox.....

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I am so so terribly sorry...😞

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**Arrs Grazznic**

Poena  
Executive  
Solutions



Posted - 2008.01.24 12:03:00 - [16]

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 **Originally by:** *Hugh Ruka*

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Now can somebody provide information for InterBus? Reading the charts correctly, it gives positive cap on each empire (pirate excepted). But some are pretty low (0.25 Amarr).

So can I rise my standing to positive levels (0+) with all factions when missioning for InterBus?

---

IIRC, InterBus have no storyline agents, so this can't be done.

 **Originally by:** *Hugh Ruka*

---

Oh and to the caps work also on the negative side? f.e. Amarr -> Gallente is listed as -2.0, so theoretically I can't get lower than -2.0 with Gallente when I mission for Amarr?

---

Yes, this is correct -- the caps work on both the +ve and -ve.

With Diplomacy at level 5, a -5.0 standing becomes -2.0 effective, allowing you to use the lowest level agents (Level 1, Quality -20) of that faction. Theoretically, you could mission \*\*\*\*\* all the major race factions in any order to get those nice free faction frigs, cruisers and BS.

For example, if you took Gallente to a 9.9 standing, you would have an +8.0 standing with Minmatar which would allow you access to all their agents. Once you have taken Minmatar to +9.9, both Caldari and Amarr standings would be -5.0, though both raised to -2.0 with Diplomacy at 5. You could then start running missions for either faction to raise standings to both. Eventually, after somewhere like 4,000 Level 4 missions, you would have all the free faction ships.

Cheers,  
Arrs



**Akita T**  
Caldari Navy  
Volunteer Task  
Force



Posted - 2008.01.27 04:09:00 - [17]

Hey, Arrs Grazznic, if that's your site (the neweden thingy), could you please transpose the standings matrix (the upper table) so that both tables read the same way (left to right) ?

1|2|3|4|5.

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