

Tacnet options analysis

As tactical networks become more and more common among professionals, it becomes obvious that a shadowrunning team could greatly benefit from its analysis and prediction capabilities, as well.

Establishing a tactical team-wide network requires several elements,

- 1) The tactical network software itself.
- 2) Enough information from the team members for it to function, measured in sensor channels.
- 3) The hardware for it to be run on. Can be either
 - a) a decentralized network with each team member running his own copy of tacnet soft
 - b) a centralized network with the software being run on the central node.

The following cost calculation will feature both variants.

Software costs

Tactical network software is worth 3000Y per point of Rating per user license, with available Ratings ranging from 1 to 4.

Expansibility concerns dictate the need to purchase the software as advanced as possible.

Sensor channels

To get full benefits from a tacnet each user must contribute its Rating x2 sensor channels. Users not contributing this many receive accordingly less benefits.

The team currently possesses this many sensor channels available for being contributed:

Clive	?		
Drakuru	0	Microdrones	1
Gringo	4	Minidrones	2
Klutz	12	Small drones	2
Saul	3	Medium drones	3
Smoboo	4	Large drones	3
Termgaunt	8		

Of course, there are relatively cheap ways to quickly raise the number of available channels.

Survival knife with a GPS, 1 channel 50Y

RFID or Micro-sized sensor packages, 1 channel

Thermometer	20Y
Directional Microphone, Geiger Counter, Microphone, or Motion Sensor	50Y
Camera	100Y
Laser Range Finder	100Y
Radio Signal Scanner	Rating x25Y
Cyberware Scanner	Rating x75Y
MAD Scanner	Rating x75Y
Non-Linear Junction Detector	Rating x100Y
Olfactory Sensor	Rating x500Y
Simrig, 5 channels	1000Y
Audio or vision enhancements	varies



Hardware

There are a few options for the hardware base.

The first and the most obvious is using what hardware the team already has. This is a viable option, although it means buying a tacnet license per team member (including whatever drones the tacnet can be run on). That brings the tacnet cost to Rating*3000Y per user.

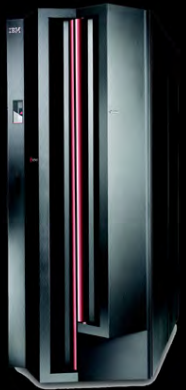
The second option is making a centralized tacnet, with a single central node and the user nodes slaved to it. The problem with this layout, however, is that a single commlink can only maintain as many as 12 slave device connections (with its System and Response as high as it is possible to get at all, for the cost appropriate). This leads to choosing between a nexus, a cluster of commlinks or a stack of slaved devices. The latter variants are both more expensive and harder to control than a single nexus, so it is obviously more preferable to have a single machine in the center.

It has been established that the persona limit for a nexus also equals the number of slaved devices it may have. With 7 runners in the team, of whom 3 have drones, and minding the expendability concerns, the number of slaved devices should be around 20.

Preliminary calculations show that the number of processes needed to be running on the nexus, if we want it even remotely safe, ranges from 20 to 30. Minding that after slaving the team's devices to the server it essentially remains the only strong point in the whole team network, running as much IC and other protective software seems more like a necessity than a whim.

It is also absolutely obvious that the Firewall rating should be as high as possible, and the Response and System ratings should be high enough for at least the tactical network software to get enough system resources.

Suggested nexus costs have been calculated according to these considerations.



Response and System Rating	Processor Limit	Cost
4	20	18000
4	30	25000
5	20	21000
5	30	29000
6	20	24000
6	30	33000



Additional software

With the nexus getting sensor feeds from each of the team members, it'd make sense to install some additional software all team members could benefit from on it. This software includes, but is not limited to linguasofts and sensor software.

The linguasofts already purchased can be installed on the nexus, and there is little need to add any other language software to them right now. Should the team decide to move, however, using a common nexus allows for quick online translations for everyone in the team.

The sensor software making most sense to be used is lie detection and empathy routines, allowing for easier social interactions, facial recognition and vehicle identification to spot specific people or vehicles the team may be looking for, visual spotter, weapon watcher and noise analysis to raise overall team awareness of its surroundings.

Sensor software costs 500Y per Rating point, with Rating ranging from 1 to 6.

Hardware modifications

With the nexus being literally the central most important node in the team network, it's likely to pay to modify its hardware to better suit the team's needs.

First of all, the nexus can be armored. The usual armor case, similar to what you have on commlinks, costs 50Y per point of rating, with rating ranging from 1 to 10. However, since nexus is a stationary and not a carried device, it can be heavily armored. As a matter of fact, the vehicle armor can be added to it, adding up to 20 rating. Each rating point costs 200Y for such armor.

Nexus, as well as most up-to-date computational devices, is optics-based, but it never hurts to add some surge protection. Hardening against EMP pulses is 25Y per point of rating, rating ranging from 1 to 6.

Finally, we are quite likely to run lots of agents both for protection and data search on the nexus. Optimizing it for this particular program is only 500Y, and makes the agents work much more smoothly.

Final calculated costs

As shown above, the tactical network can be quite a flexible system, so it makes sense to state the lowest and the highest possible prices, with the multitude of available options in between.

Decentralized network	Tacsoft Rating x3000Y per user	
Nexus with System and Response 4, Processor limit 20 and Tacsoft 4		30000Y
Additional sensor software		2000Y/program
Nexus with System and Response 6, Processor limit 30, Tacsoft 4 and full hardware modifications list		50150Y
Additional sensor software		3000Y/program