The Gates

This technology is no longer approved for IC usage and the article is presented for historical purposes.

The NovaCorp Gate system was launched with the approval of the Yamatai Star Empire, Democratic Imperium of Nepleslia, and Elysian Celestial Empire in YE 29 with enormous support for the project by the governments. The Yamatai Star Empire dismantled their Gates in YE 33 when the system was being exploited by the NMX during the Second Mishhuvurthyar War.

More About the Gates

The Gate is a network of artificial wormhole generators, serving as a way of providing near instantaneous transportation. The purpose of the gate is to link to various other gates, elsewhere in the universe, and making a wormhole between the two points. There are two varieties of Gates: Central and Standard. Both varieties of the Gates are well defended with internal shielding and self-defense systems, and have relatively heavy armament for their protection. The Gates are completely free to use, and are open to all, no matter who or what you are you can use the Gate system.

History

Traveling between the stars has many problems. A ship capable of travelling between stars tends to cost a lot of money, and needs to have a lot of advanced technology, the mere workings of that sort of the ability is beyond a standard person to contrive. This inability also allows a ship to be open to attack by pirates or enemy forces while its in-between the stars, unless it travels in an even more costly convoy. NovaCorp decided that these facts where limiting trade, and leaving it unnecessarily exposed, and so it suggested gently to Ephesus that should find a way around it. He did so through the creation of the Gates, great collections of wormhole generators in huge structures, coming both in the great "Central" gates, made for the largest planets, and the smaller "Standards" for other locations, including the less populous planets. The approval from the Yamatai Star Empire to build the Gates in Yamataian controlled space was granted in YE 29 with the passing of Proposal #74: Securing Interstellar Transport.

Statistical Data

(The information in brackets is that of the Standard Gate)

- **Organizations Using This Vessel:** NovaCorp
- **Type:** Transportation
- **Designer:** Ephesus
- **Manufacturer:** NovaCorp
- **Crew:** Automated fully, AI controlled.
- **Length:** 100 meters (100 meters)

- **Width:** 3200 meters (1400 meters)
- **Height:** 3200 meters (1400 meters)
- **Decks:** Not applicable.
- **Appearance:** The Standard gate is a great ring in space, one kilometer wide, by one kilometer high with a rim 50m thick before a ring of eighteen smaller, 100m by 100m, rings.

Each Central Gate is a collection of seven great circles united in one circle. Each of these rings is one kilometer across by another high, and can form a wormhole of this size. Around this there are 47 smaller circles, each one 100m by 100m, and equally capable of making a wormhole.

Performance Statistics

- **Speed (STL):** 0.2 light speed using gravitic engine.
- **Range (Distance):** The Gates are assembled on site, and are not designed to go anywhere.
- **Range (Support):** The Gates have no organic crew, manned only by an AI, and powered by the practically unending energy supply of Quantum foam.
- **Lifespan:** An onboard AM/M generator and G-pair system ensures that the life-span of a Gate is indefinite, stretching certainly into the decades.
- **Refit Cycle:** If required the self-repair systems can go some way to alter the gate, but it is by no means a regular event.

Inside the Gates

There is nothing inside the gates, or at least, nothing recognizable as rooms. There are only the devices and technology needed to run the Gate, and the AI. In the Central the AI is placed in the five joining points around the central gate, each section containing its own part of the AI. In the Standard Gate, it is spread across the 18 largest parts of the ring, between the smaller rings. There is nowhere for organics to go, only channels for the G-pair system, super-conducting wires etc.

Ship Systems

Armored Hull

The hull of the Gate is in both cases two meters thick Carbon-Ring, over an inner hull of Perfect Diamond. Over the surface runs a network of superconducting fibers, which distributes the energy of energy weapons over a massive surface area, vastly reducing its effect. Over this is a layer of coating that is capable of becoming a mirror-skin, capable of deflecting light and medium electro-magnetic weapons, although considerably less effective against gamma and x-ray based weapons, functioning only against light weapon fire. Built into the hull are a series of shield generators, creating a conformal shield around the hull, only a millimeter away from the hull, and spatial re-enforcement devices, making it notably harder to warp space in the hull or immediately adjacent to it. The conformal shield can take 6 Yottawatts per meter per second (3 Yottawatts per meter per second).

Shields

The primary shields of the Gate are the huge energy shields, extending 2000 (700) meters outside the hull of the Gate, and thus serving not only to protect itself, but also ships coming into it, or taking refuge in its defenses. These primary shields are capable of absorbing 40 (22) Yottawatts per square meter per second. There is a secondary shield of the same power, which is only 20 (10) meters behind the first, and which is designed so when the out shield is damaged, they move through each other, while the one now in the protection recovers. In addition to this there is a conformal shield, independent to the one that is created by the hull, which creates a shield a meter out from the hull, capable of absorbing 50 (28) Yottawatts per square meter per second. A bit of an exception for a [NovaCorp](#) vessel, the Gates do not have great Gravitic shields. This is primarily because they are not designed to use their drive for speed, and as such their field only serves the purpose of deflecting relatively low powered projectile weapons, and sapping the strength out of more powerful ones. This effect extends to outside the primary shields, to a distance of three kilometers (800 meters), getting stronger as the distance decreases.

Graviton Beam Projector

(12 x 47, 120 x 7) (12 x 18, 120 x 1): This device creates a stream of gravitons which can be used to tow other spacecraft or shuttles. The Gates use the Graviton Beam Projectors to steer ships into their wormholes. If used in unison these can be used as a weapon, crushing an opponents ship, or repulsing them. The projector is ineffective against ships using gravitonic shielding.

AI

The AI for the Gates is hosted in various places around the structure, and consists of hyper-dense quantum computers. The AI has a vast intellect, since it is predicted, as on of the larger and tactically import ships, it should have a mind capable of dealing with any situation that could come up. As such in both cases the mind is capable of running many billions of process at the same time, and acting as the AI for scores of ships, as well as processing the sensory data from many thousands of sources with ease.

Its mind, partially distracted by the vastly complicated task of operating the technology to make Wormholes work, also is designed to come up with tactics, and for the predictions, in battle of enemy movements, but in its free time, general things like the outcome of society, and the creation of imaginary worlds (a common past time for a [NovaCorp](#) AI with too much time on its hand). All Gate AIs are very stable mentally, calm and benevolent, and if they create an avatar it is almost always that of a figure dressed in brown robes and with a rope belt.

Gate AIs care not for who is using there services, only that they are safely carried through the wormhole and are not destroyed upon entering the other side. Ephesus built this into their program because he went through a stage wondering whether he was really the sort of person that should judge who was worthy and who wasn't, and if he couldn't then his creations certainly couldn't. That sentiment didn't last long, but its legacy is a completely neutral gate system.

The multiple AI cores are protected behind inner armor of one meter thick carbon-ring, and with their own shield systems, capable of withstanding 10 terrawatts per meter per second. Each core is two

meters in diameter (1 meter in diameter), inside the armor, and spherical. The power of the AI is no different between the Central and Standard Gates.

Propulsion

To move itself around, the Gates use Gravitic drives to effectively make them fall through space, although the limited power of the drive means they can only go at a speed of 0.2 c.

Wormholes

The central point of the Gate is of course the wormholes. These wormholes are only designed to connect to other gates, which comes with an advantage and a disadvantage. The advantage is that the wormhole takes far less time to connect, and is particularly stable requiring much less energy to create and maintain, the disadvantage is that it can not simply open up a wormhole anywhere in the universe.

Quantum Foam Generator

The most advanced power source available to NovaCorp, this taps into the Quantum of Space-Time foam that makes up the universe, compose of a sea of virtual particles snapping in and out of existence and wormholes existing for but a fraction of a second, and takes some energy from it. Quantum Foam has an amazing potential, in a single cubic centimeter there is enough energy to boil all of a planets oceans every second. However NovaCorp generators are not nearly this efficient, capable of utilizing on 1 or 2 percent of this energy, and to make up for this the generators are one meter cubed, and there are dozens of them (one per wormhole and powering independent systems).

AM/M Generator

This device uses a massively powerful strong nuclear force generator and rips virtual particles from the vacuum, and become real in an anti-particle, particle pair. Before they can annihilate each other they are separated by a tiny graviton beam and guided into containment fields. Millions of particles are made and sorted every second. The generator is supplied by its own Quantum Foam Generator. Unlike the model within the Onslaught, the main purpose of the Gate AM/M generator is to create normal matter with which to repair itself in unison with its G-pair system. The anti-matter created is directed into missiles and either maintained as its own defense, or sent through wormholes to back up the missile silos.

Sensors

Both Gates have a wide variety of sensors, including Gravimetric, Omnidar, and Wormhole. As well as this are various Spectrometers and Magnetic Resonance scanners with limited range.

Gravimetric: This sensor measures distortions in space time, and thus detect any object. This is

extremely effective at detecting something's presence, but is far less use when measuring something close to a large body such as a sun or planet. Gravitic shielding and Gravitic drives show up especially well on this. Its range is great, depending on the size of the body in question, but it can sense a ship from anywhere within a solar system out to the Oort Cloud.

Omnidar: An evolution of the Radar, this sensor does not limit itself to the Radio band, or even the light spectrum as the Lidar did, but instead uses all frequencies of the electromagnetic spectrum. The versatility of this sensor is extreme, and it can be used for extremely stealthy scanning, as well as a much louder scan. The range is most useful within 150,000 kilometers due to it being this distance in which the EM radiation can hit the target and get back within a second, but apart from the delay the refinement of the technology means that it works efficiently for close to an AU.

Subspace Distortion: This very sensitive sensor measures distortions in subspace, usually accounted for by way of subspace travel, which naturally distorts Subspace. Through reading these Distortions the Gate can detect almost any ship using subspace based technology from within 11 Light years, and then check that with official flight records etc to make sure that it poses no threat. Once a ship that is not following an official flight plan reaches 1 Light year it is sent a request of identification and intention. Monitoring this traffic provides a pleasant distraction to the AI.

Hyperspace Trail: As a ship moves through Hyperspace it leaves a wake in its path, a trail that can be detected. However the mark tends to be rather subtle, and that is why even given Hyperspaces FTL capacity, the Hyperspace Trail Sensor has a limited range of 1 Light year. Since Hyperspace is a less common drive technique used mainly on larger ships, the AI takes great interest in anything using it.

Wormhole: The most thorough sensor the Gate has, it works through creating hundreds of millions of micro-wormholes that last only a fraction of a second in the areas around the Gate. When these detect matter they then target more micro-wormholes in the area at a great density, and can therefore detect the presence of a object, despite any form of cloaking it has on it. Due to the number of micro-wormholes and short period of existence, a huge area of space can be covered with this sensor, despite their extremely small size. The sensor is usually set to constantly scan 1 AU (1/2 AU) around the Gate, although this is more a question of refinement, and the sensor can be focused on any area within five light years (two and a half) that the Gate find suspicious.

Communications

The Gate is equipped with advanced communication, and its AI is capable of using extremely complicated ciphers, as well as using quantum entanglement techniques to keep the contents of a message secret.

EM: Full spectrum, Dual-Modulation. Actually relies upon the same units as the Omnidar, which allow for communication along all EM bands. For example Radio can be used, or Laser for close-range transmissions to make it hard to intercept, or any other band, although these tend to have limited use unless taking advantage of the high penetrating power of the higher energy bands. This is used a fair amount because of the Gate mostly being limited to in-system business, despite it being limited to the speed of light. The Gate can use this communication ability to jam the EM spectrum with white noise, or aggravating messages (psychological warfare), as well as using various bands to input false commands into things such as missiles.

Subspace: The message is sent through Subspace, allowing for it to be transmitted faster than the Speed of Light. For messages beyond system, or to those on the outer edge of the solar-system this is use the most.

Hyperspace: Very similar to the Subspace in effect, it actually relies upon a different module to function, and works through Hyperspace. It is somewhat faster than Subspace communication, but also has a higher chance of picking up noises on the way.

Wormhole: The most advanced and also quickest form of communication on the Gate, this works through opening a small wormhole on the craft you wish to communicate with and send the message through it. The advantages of this is that it is instantaneous, as well as being next to impossible to block or listen in to. The disadvantage is that you need to know with extreme accuracy where the other ship is to open the wormhole to communicate with. The different Gates are almost always linked together by a permanent wormhole which they communicate over, as well as one to the Horizon in Kohana.

Weapons Systems

The Gates are unarmed, relying upon their considerable defences and reinforcements either from their planet or through them to provide them with any firepower they may require.

OOC Notes

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