Space Elevator Architecture

**Architecture Note #36**

***Enterprise Region considerations within the Galactic Harbour Architecture***

***The GEO Enterprise Region***

***(Third of three)***

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March 2021

**Personal Prolog**

This is an Architecture Note. It is the opinion of the Chief Architect. It represents an effort to document ongoing science and engineering discussions. It is one of many to be published over time. Most importantly, it is a sincere effort to be the diary, or the chronicle, of the multitude of our technical considerations as we progress; along the pathway developing the Space Elevator.

Michael A. Fitzgerald

**Are the GEO Region and the Apex Region … Enterprise Regions? (YES!)**

In Architecture Note #35, the Apex Enterprise Region was portrayed. It is seen as the Galactic Harbour location where the Space Elevator Transportation System supports various interplanetary transportation enterprises. The interplanetary transportation activity is envisioned to be very active; not surprising --- since the velocity imparted is free and sufficient to arrive most anywhere in the near solar system. In the prelude, all that interplanetary vigor is made possible by the GEO Enterprise Region.

**Where did these Enterprises come from?**

The GEO Regions above the various Galactic Harbours will be the home to a wide variety of enterprises. At first, the enterprises will be clients/customers of a set of utilities; power, processing, and local transportation companies (e. g. small space tugs). These companies operate in a rhythm established the schedule of Space Elevator Climbers arriving with supplies from Earth, leaving with cargo headed to the Apex, and transshipping products headed down to the Earth Port.

The utilities will be there from early on, like the basic utilities at your first apartment -- power, lights, heat and maybe furnishings. Basic utilities, thus, are the first enterprises in each GEO Enterprise Region. In a sense, they are part of the Space Elevator Transportation System. Availability of basic utilities are necessary to attract the enterprises to move into GEO Region and the Apex Region. Some enterprises will move to GEO Region from elsewhere around the GEO belt; attracted by the various utilities mentioned above and the close proximity of the supportive Space Elevator.

**What does this Enterprise Zone look like?**

As you might suspect, the dynamic topography of the GEO Region Enterprise Zone is like no other place in the solar system. The Elevator’s Climber station is the center of action for the entire region. Near this center point, several “figure 8” orbit tracks can be seen, each crossing through the geosynchronous belt - accessible to the Climber station.

One orbit track serves as a parking lot; its purpose as classic as you might suspect. Along the orbit track are storage clusters, including spare parts, fuel cells, tools, and unspecified surplus items. Each of the items in the orbit are held in place by a tiny, thrust only, utility satellite. Everything in this and other orbits will be “tagged for tracking”. Things in GEO Region orbits need to be found, if only to be disposed, but most often to be used by one of the many enterprises in the GEO Region Enterprise Zone.

Another orbit holds satellites being refueled and refurbished. Yet another orbit holds a variety of factory, assembly, or foundry locations. One of these orbits serves as base for a variety of sensors of all sorts, examining the entire region - unwanted visitors are to be snared and disposed.

After a time, the taxonomy of orbital businesses melds together, becoming integrated, stronger, and efficient. The on-orbit supply chain emerges. It is likely that service companies will rent orbital slots, and fill them with attentive robotic insurance or banking factotums! Who knows!?

There are certainly more GEO Enterprise Region orbits to be established, and moving from orbit to orbit is also the essence of the region. The entire region is serviced by any number of space tugs and space taxis. These service enhancement spacecraft, likely powered by the most modern non-chemical thrust, will move cargo and tools from orbit to orbit with the elan of physics yet discovered. These same vehicles service the movement of cargo & products from Harbour to Harbour. – (A story I will tell when next we gather)

The GEO Region Enterprise Zone is quite a place. It cannot be better than the previous one, because there was none before it. It will be better in its next version -- because humankind demands it.

**In Closing**

The Space Elevator Enterprise System will be birthed in the GEO Region Enterprise Zone. I have no idea what it might be like, any more than I knew what that ARPAnet would grow to become. We have often said that we don’t know all the answers, but we do know that the path we are on will get us to the answers, and to our vision.

Fitzer