Space Elevator Architecture

**Architecture Note #34**

***Architecture Engineering an Enterprise Region***

***(First of three)***

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**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

**What will be available at the GEO Region and the Apex?**

At this point, it has been a while. Traveling I mean. Just last year, hopping on an airplane to go somewhere was almost second nature. It wasn’t really fun, and getting there was such a relief! If you are at all like me, you brought the book to read, the snack to nibble on, and avoided the on board bathroom or at least avoided the line. One saving grace – if you arrived at the airport & realized that you forgot your whatever … you could buy it a few yards down from the departure gate. As often as not, you plugged in your phone or laptop; power is the essential commodity. The symbiotic relationship in this arrangement has morphed over the decades but 🡺 transportation is provided by the plane, and the airport departure lounge enterprises provide the necessities.

In the future, ISEC foresees cargo flights departing from the Apex at least daily. It is expected that these departures to the Moon, Mars, or other destinations in the solar system will be operated with precision and care … and be second nature. The intimate adjacency between the transportation system and the Apex enterprises will be different. Drifting from the airport departure gate to get a snack before boarding isn’t the vision for GEO Region and Apex Region enterprises. Let’s look at those over the next two months.

**Where did these Enterprises come from?**

The GEO Regions at the various Galactic Harbours will be the home to a wide variety of enterprises. Those in situ enterprises will be clients/customers of a set of utilities; power, processing, local transportation around the Region (e. g. by small space tugs), and operate in a rhythm established by the schedule of Climbers arriving at the GEO Region the Apex, and returning down to the Earth Port. The utilities will be there from early on, like the basic utilities at your first apartment after college. Basic utilities, thus, are the first enterprises in each Region; they are essentially part of the Space Elevator Transportation System. Availability of basic utilities attract the visionary enterprises that will later move into GEO Region and the Apex Region.

These enterprises are the 21st century kin of the enterprises that now surround airports, train stations, and harbors. *As I wrote in January 2017, in Architecture Note #5:*

* *That brings us to the GEO Region as a place. Is it a place with a reason, like New York? … or is it a place in the middle of nowhere; to just pass through? I happen to think wherever we have Space Elevator activity, THAT ‘wherever” will become a place. For example, New York became a place because it had a natural harbor. After it became a place, other things started happening at that place. Like a Port of Entry, Wall Street, Fulton’s Fish Market, the Bronx Zoo, Broadway, and all those museums; all because it was lucky enough to have a harbor. Eventually, cruise ships stopped there.*
* *Now in my mind, the Space Elevator at the GEO Region is not just a place to just pass through. As a place, it is more like New York and its harbor. It is different than Lincoln, Nebraska; Lubbock, Texas; or Gallup, New Mexico. The GEO Region seems like part of a larger thing. It is a port of entry and return; part of the Galactic Harbour.*
* *In our vision… we see a great Space Elevator Transportation System that opens space; in the same way the railroad opened up the US west.  It is a marvel of Kepler’s physics and a marvel of humankind. We see the Galactic Harbour importing needed commodities (Power and unique minerals) and exporting the noxious (Nuclear waste and Space debris).*
* *As part of that Harbour, we see a place above; that is enabling improvement in life’s quality - and its enjoyment.  We call that place the GEO Region.  In and near that region we see unique small spacecraft and robots that refuel … repair … construct … assemble … inspect; that do whatever we ask. We see all that occurring in the GEO Region in the 2040’s; all part of the Galactic Harbour.*

**In Closing**

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