BitSat ™

The Next Generation of Cloud Computing

DSS
Dunvegan
Space
Systems

Overview:

BitSats are nano-satellites designed to operate in low earth orbit (LEO) providing an open platform for communication and computing systems that can provide unique advantages over currently available solutions with improved availability, security and lower cost.

Applications:

BitSats have the capability to provide data processing, file storage and broadcasting capabilities in the security of outer space. The BitSat network provides customers with improved physical security, storage and on-demand communication in support of operations anywhere on earth. Customers also benefit from not having to incur the time and cost of developing and deploying a proprietary spacecraft or the ongoing cost of mission operations. This revolutionary service model is expected to drive the rapid expansion of space-based cloud computing.

Financial applications are one example of BitSat's value add capabilities. BitSat has been optimized for Bitcoin and crypto-currency applications. Each BitSat has the capability to save the entire blockchain on orbit, providing a comprehensive back-up for the terrestrial Bitcoin network, while helping to build the blockchain. BitSats independently verify each bitcoin block after uplink from a ground station, ensuring relevant communication with the terrestrial Bitcoin network.

Design & Performance Metrics: (**Individual Satellite**)

- 3U CubeSat form-factor
- Continuous operation for a five year period.
- Maintains communications link with ground station for up to 15 minutes per pass
- Radio Downlink: up to 1 Mb/s
- Radio Uplink: up to 1 Mb/s
- Each individual satellite to pass over a ground station 4-14 times per day
- A full constellation of 24 BitSats will pass over each station, on average, over 100 times/day
- Communication over S-band frequencies
- Peak power consumption of 18.5 W

Spacecraft Subsystems:

- Onboard computing and data storage
- Fintech optimized radio communication
- Propulsion for constellation maintenance
- Navigation control (including attitude determination and control system)
- Deployable solar panel power system
- Structural and thermal management
- Tracking, telemetry and command

Dunvegan Space Systems develops software based on open-source principles, with a focus on providing data processing, storage and broadcasting capabilities in space. DSS believes that the rapidly emerging commercialization of space represents an untapped market for open-source communication and computing systems that can provide unique advantages over current terrestrial solutions.

Pricing:

- Single BitSat: $1,000,000.
- 24 unit BitSat constellation: $19,000,000

These prices include spacecraft, launch and operations. Pricing may vary due to differences in configuration or instrumentation

Dunvegan Space Systems, Inc.
Atlanta, Georgia, USA, Earth
www.dunveganspace.com
Phone: 1-404-368-2295

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