User Created Correlation in Spacelike-Separated TRNGs

GPS Clock and Synchronized TRNG

Operational Capabilities

A user's mental effort is intended to create a correlation between the outputs of two true random number generators. GPS disciplined clocks at each generator synchronize their operation and provide high-accuracy (<100ns) timestamps.

- Performance is measured by Correlation Coefficient between the two TRNG outputs with the same timestamp.
- Operation is best when performed by a trained user.
- System components are fully portable.
- Interfacing is with a computer and via Internet connection.

Technical Approach

- The principle of operation is based on the ability of a user's focus to alter or correlate the output numbers from true random number generators (TRNGs).
- Current systems provide sufficient correlations but have not been tested with spacelike separation.
- Spacelike separation will be provided with a remote GPS time-synchronized TRNG sending data over the Internet. Generation period is 10ms for independent (causally unrelated) outputs.
- Physical separation must be greater than 3000Km. Line-of-sight distance from Albuquerque, NM to Honolulu, HI is 3144Km.

Development

- The Principle Investigator is Scott A. Wilber, serial entrepreneur, 12 issued patents, multiple published peer-reviewed papers.
- Research systems include novel TRNG devices synchronized with high-accuracy GPS-based clocks.
- Additional software and hardware development is required to perform spacelike-separated tests with high confidence levels.

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