

Technical Specification

Internet Connectivity

1. Objective

The objective of this tender is to implement a robust and reliable high-speed internet connectivity solution that integrates multiple satellite connections with LTE failover capabilities. The solution should ensure uninterrupted service and provide seamless connectivity in remote or challenging environments.

2. Scope of Work

The scope of this project includes, but is not limited to, the following:

1. Assessment and Planning

- Conduct a comprehensive site survey to determine the optimal placement for satellite and LTE equipment or other relevant solution.
- Design a solution that integrates multiple satellite internet connections with an LTE backup or other relevant connection for uninterrupted service.
- Develop a project plan with clear timelines and milestones.

2. Equipment and Infrastructure

- Supply and install all necessary hardware to bond multiple satellite connections.
- Provide an LTE modem/router or other relevant solution capable of serving as a failover in the event of satellite connection loss.
- Ensure all equipment is weather-resistant and suitable for installation in remote locations.

3. Network Configuration

- Configure a bonded internet solution that combines multiple satellite connections for higher bandwidth and redundancy.
- Implement an automatic failover system to switch to LTE connectivity or other relevant backup connection solution in case all satellite connections fail.

- Optimize network performance to ensure minimal latency and high reliability.

4. Integration and Testing

- Integrate the solution with the existing network infrastructure, ensuring compatibility and smooth operation.
- Conduct rigorous testing to verify that the bonded connection and LTE or other relevant backup connection failover function as intended under various conditions.
- Provide documentation of test results and adjustments made.

5. Training and Support

- Offer training sessions for technical staff on the operation and maintenance of the system.
- Provide detailed documentation on system configuration, troubleshooting, and support procedures.
- Offer ongoing support and maintenance services as required.

3. Technical Requirements

1. Bonded Satellite Connectivity

- The system must be capable of aggregating multiple satellite connections to increase bandwidth and redundancy.
- It should support seamless data load balancing and intelligent traffic management.
- The system should dynamically allocate bandwidth based on network conditions and priority requirements.

2. LTE Failover Capability

- The LTE solution must support automatic failover to ensure continuous connectivity if satellite connections are interrupted.
- The system should support multiple LTE providers or other relevant backup Internet connection to ensure maximum coverage and reliability.

- It must be capable of automatically reverting to the primary satellite connection once it is restored.

3. Network Resilience and Performance

- The solution should maintain a high level of service uptime, aiming for at least 99.9% availability.
- Latency and packet loss should be minimized through intelligent routing and data management.
- The solution must support Quality of Service (QoS) policies to prioritize critical traffic.

4. Scalability and Flexibility

- The system should be scalable to support additional satellite, LTE connections, or other relevant backup connection as needed.
- It must be flexible enough to adapt to different environmental conditions and network demands.
- Configuration changes and firmware updates should be manageable through a user-friendly interface.

5. Security

- The solution must include robust security features to protect against unauthorized access and cyber threats.
- It should support VPN connections and encrypted traffic for secure data transmission.
- Access to system configuration should be restricted to authorized personnel only.

4. Installation and Deployment

1. Site Preparation

- Prepare the site for installation, ensuring all necessary infrastructure, such as power and mounting points, are in place.

2. Equipment Installation

- Install all satellite and LTE hardware or other backup Internet solution as per the design plan, ensuring proper alignment and signal strength.
- Set up networking equipment, ensuring correct configuration and integration with existing systems.

3. System Testing and Commissioning

- Perform comprehensive system tests to validate performance, including bandwidth aggregation, failover functionality, and network stability.
- Document all test results and obtain approval from the designated project manager.

5. Deliverables

1. Hardware and Software Components

- Supply and install all necessary equipment for bonded satellite and failover connectivity.
- Provide all necessary software licenses and documentation.

2. Documentation

- Detailed network design and implementation plan.
- Configuration guides and user manuals for all installed systems.
- Training materials for system operation and maintenance.

3. Training

- Conduct training sessions for technical personnel on system management and troubleshooting.

4. Support and Maintenance

- Provide a support plan detailing response times and procedures for technical assistance.
- Offer maintenance services as per the agreed schedule or on an as-needed basis.

6. Warranty and Service Level Agreement (SLA)

- The solution must come with a minimum one-year warranty on all hardware and software components.
- The SLA should guarantee a response time for critical issues within 2 hours and resolution within 8 hours.

7. Submission Requirements

1. Technical Proposal

- A detailed description of the proposed solution, including hardware and software specifications.
- Implementation plan with timelines and milestones.

2. Financial Proposal

- A detailed cost breakdown for equipment, installation, and ongoing support.
- Any additional costs for optional features or extended support.

3. Company Profile

- Relevant experience in implementing similar solutions.
- References from previous projects.

8. Evaluation Criteria

- **Technical Capability:** Ability to meet or exceed the specified requirements.
- **Project Experience:** Demonstrated experience with similar projects.
- **Cost-Effectiveness:** Overall cost, including ongoing support and maintenance.
- **Support and Maintenance:** Quality of proposed support and maintenance services.

9. Terms and Conditions

- The tenderer must comply with all applicable laws and regulations.
- All work must be completed within the specified timeline unless otherwise agreed in writing.
- The client reserves the right to reject any and all proposals.