

Request for Proposal Template

For In-Building Wireless Infrastructure

For service providers, property owners, facility management and IT departments looking to improve wireless voice and data service inside of their building or throughout an entire campus, it may be difficult to know where to begin. The first step is often auditing the quality of service and use of mobile voice and data applications today and thinking about the future. Once a need is established, bridging the gap between problem and resolution can be a challenge. How do I select the right technology for my property? How do I select the right partner?

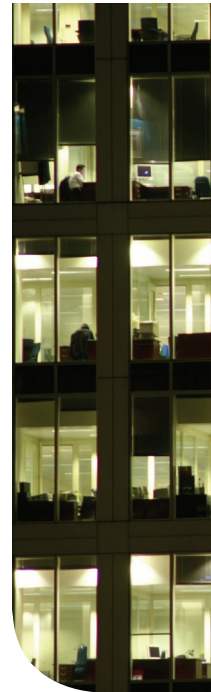
At this stage, it is common to solicit a request for proposal (RFP) to find the right partner to deliver a solution consistent with your organizations communication goals. RFPs provide a comprehensive and objective manner to audit the market and select the partner best for you.

The next challenge is assembling an RFP that will be comprehensive and specific enough to help you make your decision. The following is an RFP Guide designed to address details ranging from the overall project goals to specific technical performance data. This document includes your overall project scope and desired outcomes including a list of design assumptions you need to provide the vendor to make an accurate proposal. This document also includes an exhaustive audit of the vendor capabilities, including references, solution description and performance data. Specific areas of focus are:

- Executive Overview
- Vendor Background
- References
- Technology
- Maintenance and Support Services
- Design Submission
- Performance Guarantee
- Specifications
- Quality and Environmental

We hope you find this RFP Guide a valuable tool in achieving your mobile communications goals.

Contact ADC at 1-800-366-3891 or online at www.adc.com.



Sample, Inc

RFP for In-Building Wireless Infrastructure

Date

Place



1. Executive Overview

Section 1 to be completed by requester. Vendor shall state compliance.

- 1.1.3.1. Mobile services by operator (the buyer can identify specific frequencies to be covered or identify all the operators to be supported)
- 1.1.3.2. Public safety, private radio, etc
- 1.1.3.3. Day one capacity requirements
- 1.1.3.4. Future growth requirements
- 1.1.4. Cabling restrictions
- 1.1.5. Buyer preferences and limitations
- 1.1.6. Please refer to Appendix A for a list of assumptions which need to be considered.

2. Vendor Background

- 2.1. Company Background
 - 2.1.1. Years in business
 - 2.1.2. Number of employees
 - 2.1.3. Locations of Headquarters and branch offices, including international locations
 - 2.1.4. Provide names, titles and contact information for the account team responding to this RFP

3. References

- 3.1. List the total number of installations/projects completed since inception.
- 3.2. List five projects, completed in the last year, that were of similar size and scope to our project.
- 3.3. Provide three (3) references, including name, title and contact information.

4. Technology

- 4.1. Are you the manufacturer of your proposed solution? If not, who is the manufacturer? Please provide data sheets for all components used in the proposed solution.
- 4.2. Detail the type of equipment and components needed to cover 100,000 square feet, 500,000 square feet and 2 million square feet.



- 4.3. Detail bands covered by your current offering.
- 4.4. Can each service (Cellular, Public Safety) be extended independently or are all services extended together?
- 4.5. Provide an overview of the monitoring and maintenance capabilities of the proposed system.
- 4.6. Detail the procedure to trouble shoot the following problems:
 - 4.6.1. Disconnected antenna
 - 4.6.2. Failed remote
 - 4.6.3. Cable break or cut (detail both fiber and coax)
 - 4.6.4. Cable installed is 125% longer than design spec
- 4.7. Provide an overview of the process used in the creation of your proposed design.
- 4.8. Installation and Project Management
 - 4.8.1. Detail your project management capabilities and processes.
 - 4.8.2. Will a vendor employee be the primary Project Manager or will a sub-contractor provide this service?
 - 4.8.3. Identify all sub-contractors to be used in this project and their roles and responsibilities.
 - 4.8.4. Describe all installation activities for the proposed system.



5. Maintenance and Support Services

- 5.1. Detail maintenance and post sale support services, including duration, that are included in the price of the proposed system.
- 5.2. Detail maintenance and support services, including duration, that are available for additional cost, including extended warranty options.
- 5.3. What warranty period is offered for the entire, installed system?
- 5.5. Do you have regional field service offices? If so, where are they located?
- 5.6. What field technical support response time is guaranteed?
- 5.7. Do you offer a solutions training program? Please describe. List any fees and terms.

6. Design Submission

- 6.1. Vendor should provide detailed design of proposed system, including price. Address compliance with all items in the Executives Overview and Appendix A.

7. Performance Guarantee

- 7.1. It is a requirement of (buyer) that all services on the proposed system have a guaranteed performance level. Please confirm the performance metrics of your proposed solution and your guarantee to deliver these performance levels as measured by field tests of the installed system or bring the installed system into compliance without cost to (buyer).
- 7.2. What warranty period is offered for the entire, installed system? For the active components? What response time is guaranteed?

8. Specifications

- 8.1. Define the RF power per RF carrier, band and protocol.
- 8.2. Explain how RF output power is measured and where in the system the measurement is taken (i.e. at antenna point, at remote, etc.)
- 8.3. When providing system performance metrics, are these measured at the output of the remote unit? Do performance metrics factor in any cable loss?
- 8.4. Please list the system noise figure and how it is defined.
- 8.5. Describe cable distances and loss and how it affects your system, or attach a chart w/cable specs and max distances.
- 8.6. Please list the waveform accuracy specification for all supported protocols and provide performance test documentation.





- 8.7. How does/will your solution support 3G/4G services (HSPA/HSPA+, WiMAX, LTE)?
- 8.8. Does your solution support MIMO? If so, please describe how this is achieved in detail.
- 8.9. Does your solution support 64QAM data? Please provide test results.
- 8.10. Does your system support various power options—AC or DC?
- 8.11. Can the solution use UPS systems? If so, how are they alarmed? Describe the various options (duration of support, amount of equipment).
- 8.12. Does your solution support SNMP? If so, how is it supported (external box or integrated) and what are the connectivity options (LAN, wireless modem, POTS line)?
- 8.13. Do you offer a NOC/NMS capability for centralized monitoring/maintenance? If so, how many systems can be simultaneously monitored and managed?
- 8.14. If your system supports multiple frequency bands, can each band be managed independently? Can a frequency band be shut down on a system wide basis? Can a frequency band be shut down at a specific passive antenna point?
- 8.15. Can attenuation be applied via software to a single antenna point?
- 8.16. Can your solution support capacity and coverage changes post installation? If so, how is this managed?
- 8.17. Do you offer solutions for outdoor areas or “hybrid” type environments such as plazas and parking garages?
- 8.18. Do you offer solutions that can scale to support multiple facilities? Please describe.
- 8.19. Describe the system architecture flexibility of your solution(s).
- 8.20. Can your solution use the existing cable infrastructure in or between buildings? Please describe.
- 8.21. What is your MTBF for all products you’re responding with?
- 8.22. How much, as a percentage of total cost, is the cable and installation in your proposal?
- 8.23. Describe the physical space requirements for main equipment locations based on the system configuration proposed in this RFP.
- 8.24. List the potential RF interfaces your system can support (base station, BDA/repeater, CPRI/OBSAI base station interface, etc.).

9. Quality/Environmental

- 9.1. Must be ISO 9000, 9001/14001 certified. Provide compliance data.
- 9.2. Provide the following data for the past 3 years.
 - 9.2.1. Early return rate
 - 9.2.2. One year return rate
 - 9.2.3. Long term return rate
- 9.3. Provide quantitative customer satisfaction data.
- 9.4. Products must be lead free, RoHS/WEEE compliant. Provide compliance data.



Appendix A: Design Parameters/Assumptions made by Vendor/RFP respondent.

- Define number of sectors per frequency per service provider.
- Define Design Goal. (example: -85 dBm for 90% of defined coverage area at 90% of time)
- Define Coverage.
- Define System Feed. (Will the system be fed remotely (off-air) or from a base station(s) on or off-site)?
- Confirm that rooftop donor antenna will be mounted to either a wall-mount mast or non penetrating roof mount (NPRM).
- Determine if adequate signal exists to drive the system.
- State the assumed fade margin for the RF coverage prediction and what that accounts for.
- State what the RF coverage prediction and system designs are based on.
- State physical mounting locations for main equipment and if all necessary mounting gear is included in the proposal. This should include physical space and environmental requirements.
- State whether AC Power and Grounding are available in proposed equipment rooms and if quote should exclude A/C electrical work.
- State what types of antennas are permitted and confirm antenna location height from floor.
- State whether existing cable pathways can be used. Confirm whether installation of additional cable racks or raceways is required.
- State whether installation of new conduit is required.
- State whether cable lengths are estimates or not-to-exceed amounts.
- State whether existing cable infrastructure can be used. If so, state type and existing locations.
- State whether penetration of fire-rated walls require approved fire-stopping methods.
- State whether dust tents/partitions, water misting of surfaces, etc., will be required.
- Confirm that installation is to occur during normal business hours.
- Confirm if quoted cabling is plenum rated; if required.
- Confirm if Union labor is quoted.
- If required, confirm if special high-lift equipment is quoted.
- Describe close-out commissioning documentation package.
- State whether spare products are quoted per supplier recommended amounts.

