MDU Network Survey Guide

Apartment Wi-Fi Projects

Introduction

This document is a guide for conducting an onsite survey of a Multi-Dwelling Unit (MDU) building or garden-style apartment community. The goal is to identify the existing Internet and data network, evaluate the cabling infrastructure, and assess the availability and quality of Internet services. Additionally, this information can help design new cabling and Internet infrastructure to connect residents.

Prospective vendors will likely request or collect the information in this guide to answer your Request for Proposal.

Topics

Site Visit Preparation

The site visit is the first step in assessing the existing Internet and network infrastructure of a Multi-Dwelling Unit (MDU) building or garden-style apartment community. This initial visit allows prospective vendors to thoroughly examine the property's layout, current cabling, and equipment locations. The goal is to gather detailed, on-the-ground data to inform their responses to your RFP.

By conducting a comprehensive evaluation during the site visit, vendors can identify existing challenges, uncover opportunities for enhancements, and determine specific requirements needed to upgrade the Internet services throughout the property.

Step 1: Gather Property Information

Document the following information on the worksheet to prepare for vendor site visits.

Property Name	
Main Address	
Owner Name	
Owner Email	
Owner Phone	
Property Manager Name	
Property Manager Email	
Property Manager Phone	
Property Style	
Type of Units	
Approx. Sq Footage of Units (range)	
Special Considerations	

Step 2: Compile Reference Materials

Compiling reference materials requires identifying and contacting colleagues, offices, and technicians with valuable documents and insights. Engaging with team members, such as building managers, network technicians, and IT staff, ensures comprehensive data, including building layouts, network diagrams, and service agreements.

2.1 BUILDING – SITE PLANS/BLUEPRINTS

Print blueprints, building plans, and other information available before going onsite. Take the printed documents with you for a better perspective on the property. Ideal documents include building plans showing the location and layout of the apartment units and the current low voltage/data wiring in the building(s).
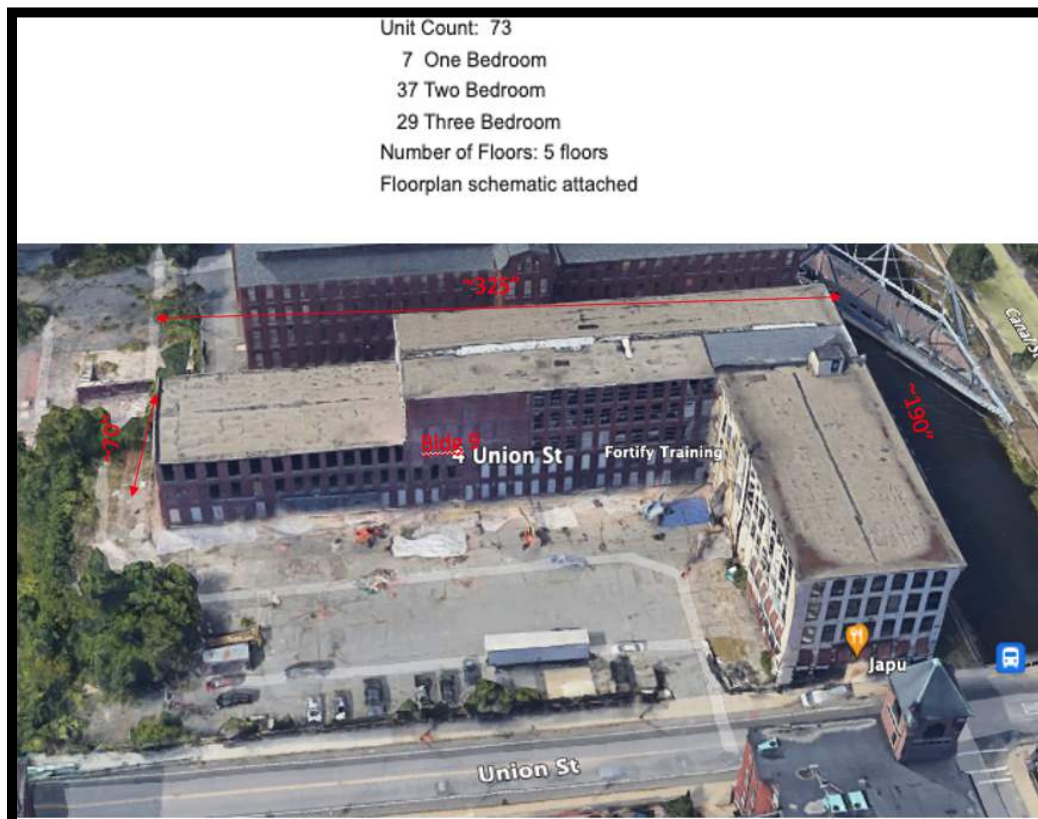
2.2 UNIT FLOOR PLANS

Provide detailed floor plans of all unit types on the property, similar to the example below.

2.3 SATELLITE SITE IMAGES

Generate and print Google Maps images of the property's layout. Identify the type, size, etc of all buildings. Note that using the measuring tool can be helpful.

2.4 PROPERTY SPECIFICATION DOCUMENTS

Identify who may have access to all of the property specifications and have them complete the [Site Survey Questionnaire](#) to be presented to vendors who conduct site visits.

Step 3: Access Confirmation

- Ensure details and a specific date and time are scheduled between the vendor and the property POC for the site visit.

- Confirm that access to property buildings and grounds, common areas, telecom or utility closets, hallways, and a sampling of residential units is guaranteed on the scheduled date and time.

- If an escort from the property is required, ensure this is arranged.

Note: Maintenance technicians are often the best resource for information and access at the property.

Site Visit

Once you have gathered all the necessary documents and data about your property, you should invite interested vendors for a site visit. The steps outlined should provide insight into what to expect during the visit.

The vendor will comprehensively assess all critical aspects of your property, ensuring you have the information needed to solicit accurate and complete quotes.

Unit Survey

To identify the type of existing cabling and installation configuration at a property, the vendor will follow these steps or similar:

1. Survey the Interior of a Representative Sampling of Residential Units

   ☐ Enter several residential units, ideally of each unit type.

   ☐ Inspect the walls of living rooms and bedrooms (and other rooms if applicable) to determine the number and type of outlets present.

☐ Look for one or more of the following outlets.

☐ Identify where the cabling from these outlets connects and check for any uplinks to a central IT closet.

2. Survey for outlet types in living rooms and bedrooms.

☐ Take photos of outlets, noting the rooms they are in.

☐ Check with staff and spot-check multiple units to ensure consistency in configurations across units.

☐ Locate the apartment's media panel or enclosure, as pictured below. These panels are commonly found in the laundry or utility closet but can be located elsewhere, so a thorough search is necessary. The ports may connect directly to an IDF closet if no panel is present.

Next, we will outline all aspects of the assessment process with examples.

OUTLETS

Outlets provide physical connections to various internet and communication services throughout the property. This section outlines four common types of outlets—Coax, Telephone (RJ11/RJ12), Ethernet (RJ45), and Fiber Optic—each serving a specific purpose in delivering connectivity to residents.

During this phase, the vendor will document the type of cabling by examining cable labeling on the walls of all rooms and recording the number of outlets.

A wall plate with Ethernet (top), Phone (Center), and Coax (bottom) outlets.

COAX (CABLE TV) OUTLETS

Coaxial cable outlets are commonly used for cable TV and some internet services. They connect to a central coax distribution system. If necessary, the wall plate will be removed to determine the cabling type. Vendors can then check the label on the cable.

Typical Living Room with Coaxial Outlet on the wall
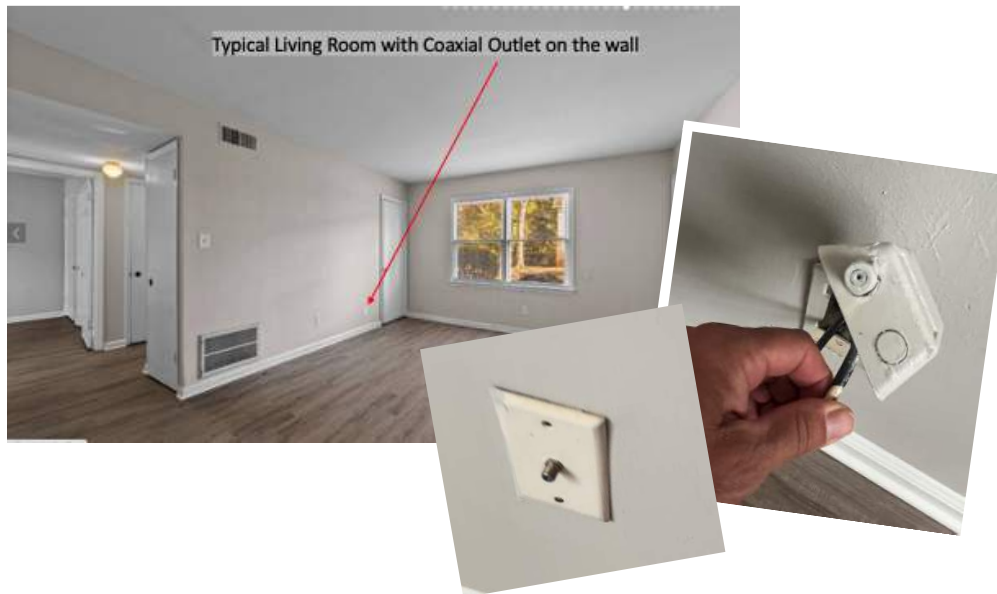
TELEPHONE OUTLETS (CAT3 CABLING)

Traditional phone jacks are used primarily for landline phone services and occasionally for DSL internet connections. This cabling typically routes from the wall outlet to an Intermediate Distribution Frame (IDF) closet outside the unit.

What is an IDF Closet?

An Intermediate Distribution Frame (IDF) closet is a dedicated space within a building where network equipment and cabling are centralized for a specific area or floor. The IDF closet is a secondary hub connecting individual devices, such as computers, phones, or wireless access points, to the central network infrastructure.

ETHERNET OUTLETS

Ethernet cables are standard for wired internet connections, support high-speed data transfer, and are commonly used in modern network setups. Vendors can determine the type of Ethernet cable (Cat5, Cat5e, Cat6, or Cat6a) by checking the writing on the cabling.

Example of a Cat-5e Ethernet Cable:
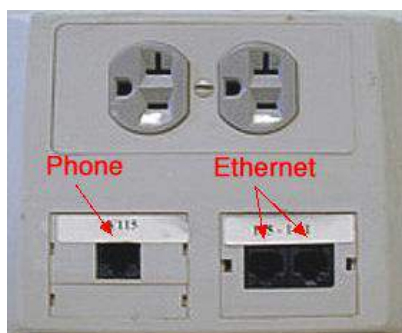
Professionals should verify whether the Ethernet cables are routed to a distribution box or a media panel within the unit. They will examine the recessed wall media panel to ensure that all Ethernet cables from various outlets in the unit converge into this enclosure. They will also check if the wires terminate into a data switch and that the switch is connected to a cable modem within the same enclosure, ensuring seamless Internet service for the residents.
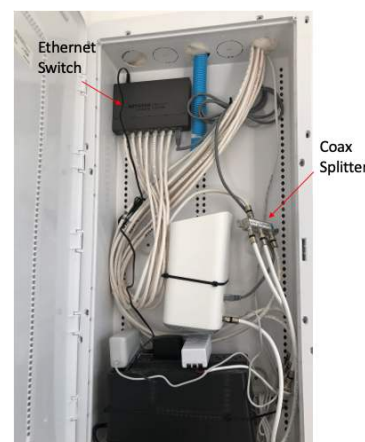
FIBER OPTIC CONNECTORS

Fiber optic termination may take various forms. Examples include a single-port wall-mounted outlet, a dedicated fiber enclosure, and fiber terminating into a shared media panel. Here, vendors will note the cable type and whether it's (Angled Physical Contact (APC, Green connector) or Ultra Physical Contact (UPC, Blue connector). Capture pictures of connectors and receptacles.

TYPICAL TYPES OF FIBER CONNECTORS

OTHER TYPES OF FIBER OUTLETS		
SINGLE-MODE SC/APC WALL-MOUNTED OUTLET	**DEDICATED FIBER ENCLOSURE**	**FIBER INSIDE A SHARED MEDIA PANEL**

WI-FI ACCESS POINTS

During the site survey, vendors will identify and document all existing Wireless Access Points (WAPs) within the building. This includes capturing pictures and noting the make and model of each access point. These devices can be located on the walls or ceilings of individual units or positioned in common areas like hallways. Accurately recording the location and specifications of each WAP is essential to assess current wireless coverage and determine any necessary upgrades or adjustments to ensure optimal connectivity throughout the property.

TYPICAL ACCESS POINT	INSTALLATION OF CEILING-MOUNTED ACCESS POINT

SMART HOME DEVICES

Vendors should identify and document any Smart Home devices within the units or common areas, such as cameras, smart locks, smart thermostats, or other networked or connected devices. They should capture clear pictures of each device and record their make and model for future reference. This information is crucial for understanding the current smart technology setup and planning network adjustments or enhancements to support these devices effectively.

MEDIA PANEL

After identifying outlet types, it is imperative to determine how cables supporting these outlets are routed. Do they go directly from the outlet to an aggregation location or enclosure inside the unit? Ensure the vendor follows these steps or similar.

1. Locate any enclosure or media distribution box where cabling aggregates from wall outlets. If not found, assume cabling routes directly to a closet, enclosure, or provider's network outside the unit. This can be verified with a Cable Toner for copper cables or a Visual Fault Locator for fiber optics.

2. If a distribution box is found, examine how cables are configured. Identify cables routing to each outlet, checking for cables uplinking the distribution box to a telecom closet, IDF closet, or enclosure. Note the number of wires routing from the distribution box and utilize the checklist provided.

MEDIA PANEL

CABLE DISTRIBUTION CHECKLIST AND QUESTIONS
☐ Is there a telecom media panel/box inside the unit? 　☐ If yes, where is it located? ☐ What are the dimensions of the enclosure? ☐ Is it large enough to fit equipment inside it? ☐ Is the Ethernet cable from the in-unit outlets routed to a media panel inside the unit? ☐ Note the number/count of Ethernet cabling coming into the enclosure. ☐ Is there electrical power in the media panel or an outlet close by? ☐ What type of Ethernet cabling is used? ☐ Is the media panel uplinked or connected to a network with Ethernet, Coax, Fiber, or Other cabling? 　☐ If yes, determine where the uplink cabling in the media panel connects. ☐ If you have a unit layout from the property, record where the outlets and enclosures are located on the unit layout. ☐ Attach photos.

IDF/MDF Survey

Intermediate Distribution Frames (IDFs) and Main Distribution Frames (MDFs) are central locations for managing a building's telecom and IT networks. The IDF gathers network connections from different parts of the building and links them to the MDF, the central network hub, or the internet service provider's network outside the property. When conducting an

IDF/MDF survey, it is vital to understand how the cables run from the apartment units to the IDF or MDF.

Vendors will likely follow two steps:

1. Locate IDF/MDF Closets or Enclosures:
   IDF and MDF locations are typically found in telecom or utility closets, hallway closets, stairwells, common areas, or outdoor enclosures. Each building usually has its own IDF, especially in garden-style apartments, where outdoor IDFs in weatherproof enclosures are common. A central MDF serves multiple floors in mid-rise or high-rise buildings, and its location varies depending on the building layout.

2. Document IDF/MDF Details:
   Record details about each IDF/MDF location, including size, physical features, availability of electrical outlets, and how cables are organized. Document how cables enter the building, whether through attics, basements, drop ceilings, or chases and note the type and path of the uplink cabling to the MDF or internet service provider's network.

Here are a few examples of IDF and MDF closets and a checklist that can be utilized to guide the assessment.

IDF/MDF SURVEY CHECKLIST
☐ Location and size of all IDF/MDF closets ☐ Define any incoming Fiber connections ☐ Define the Internet source and connectivity type ☐ Is there a Rack?   ☐ Is there space in the Rack? ☐ Equipment Details - make, model, how many ☐ Where is the power outlet, and is it functional? ☐ Is there battery Backup (Uninterruptible Power Supplies, UPSs)? ☐ Is there active cooling (A/C)? ☐ Record any connectivity in the closets. ☐ Count the incoming Ethernet, Coax, Phone, Fiber, and other cables. ☐ Include detailed, close-up photos.

Common Areas Survey

Lastly, surveying common areas, like hallways and clubhouses, is similar to surveying units. The following details should be documented, along with clear and detailed photos.

1. Outlets:
   - Types of outlets
   - Aggregation points

- IDF or MDF details
- Number and type of outlets and their specific locations
- Cabling types

2. Wi-Fi Wireless Access Points (WAPs) and Smart Devices

- Location and model of WAPs in common areas.
- Other Audio-Visual (AV) or smart devices in the common areas.

Conclusion

Following the steps outlined in this guide ensures comprehensive data collection. It avoids potential pitfalls, such as incomplete or inaccurate information, leading to inadequate network solutions and misaligned vendor quotes.

A detailed survey helps vendors provide highly accurate responses to Requests for Proposals (RFPs), ultimately saving time, reducing costs, and ensuring that proposed network solutions effectively meet the property's needs. This proactive approach leads to more reliable internet services and improved resident satisfaction, solidifying a foundation for future network enhancements.

KEY TAKEAWAYS

1. Accurate Data Collection: Gathering detailed information on the current network setup with clear photos is essential to planning effective upgrades.

2. Compiled Reference Materials: Providing vendors with building plans, unit layouts, and network diagrams helps identify network challenges and opportunities for improvement.

3. Collaboration with Staff: Engaging with colleagues across functions ensures access to all physical areas and relevant information, resulting in a more complete and accurate survey.