

Site Survey

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What is a Site Survey?

- An RF site survey is a *map to successfully implementing a wireless network*.
- whether that client is internal or external to your organization. The site survey is not to be taken lightly, and can take days or even weeks, depending on the site being surveyed. The resulting information of a quality site survey can be significantly helpful for a long time to come.

- A site survey is a task-by-task process by which the surveyor discovers the RF behavior, coverage, interference, and determines proper hardware placement in a facility. The site survey's primary objective is to ensure that mobile workers – the wireless LAN's "clients" – experience continually strong RF signal strength as they move around their facility. Proper performance of the tasks listed in this section will ensure a quality site survey and can help achieve a seamless operating environment every time you install a wireless network.

Preparing for a Site Survey

- Some of the topics you may want to question the network management about before performing your site survey:
 - [?] Facilities Analysis
 - [?] Existing Networks
 - [?] Area Usage & Towers
 - [?] Bandwidth & Roaming Requirements

Facility Analysis

- This question is very basic, but the answer can make a big impact on the site survey work for the next several days. Consider the obvious differences that would exist in conducting a site survey of a small office with one server and 20 clients versus performing a site survey of a large international airport. Aside from the obvious size differences, you must take into account the number of users, security requirements, bandwidth requirements, budget, and what kind of impact jet engines have on 802.11 RF signals, if any, etc.

Existing Networks

- *Is there already a network (wired or wireless) in place?*
- This question is also basic, but you must know if the client is starting from scratch or if the wireless LAN must work with an existing infrastructure. If there is an existing infrastructure, what it consists of must be known. Most of the time there is an existing infrastructure, which opens the door to a myriad of questions that need answering. Documentation of existing wireless LAN hardware, frequencies being used, number of users, throughput, etc., must be taken into account so that decisions can be made on how the new equipment (if needed) will fit in. It may also be the case that the customer did the initial installation, and has since outgrown the initial installation. If the existing setup functions poorly, this poor performance must also be noted so the problems are not repeated.

Area Usage & Towers

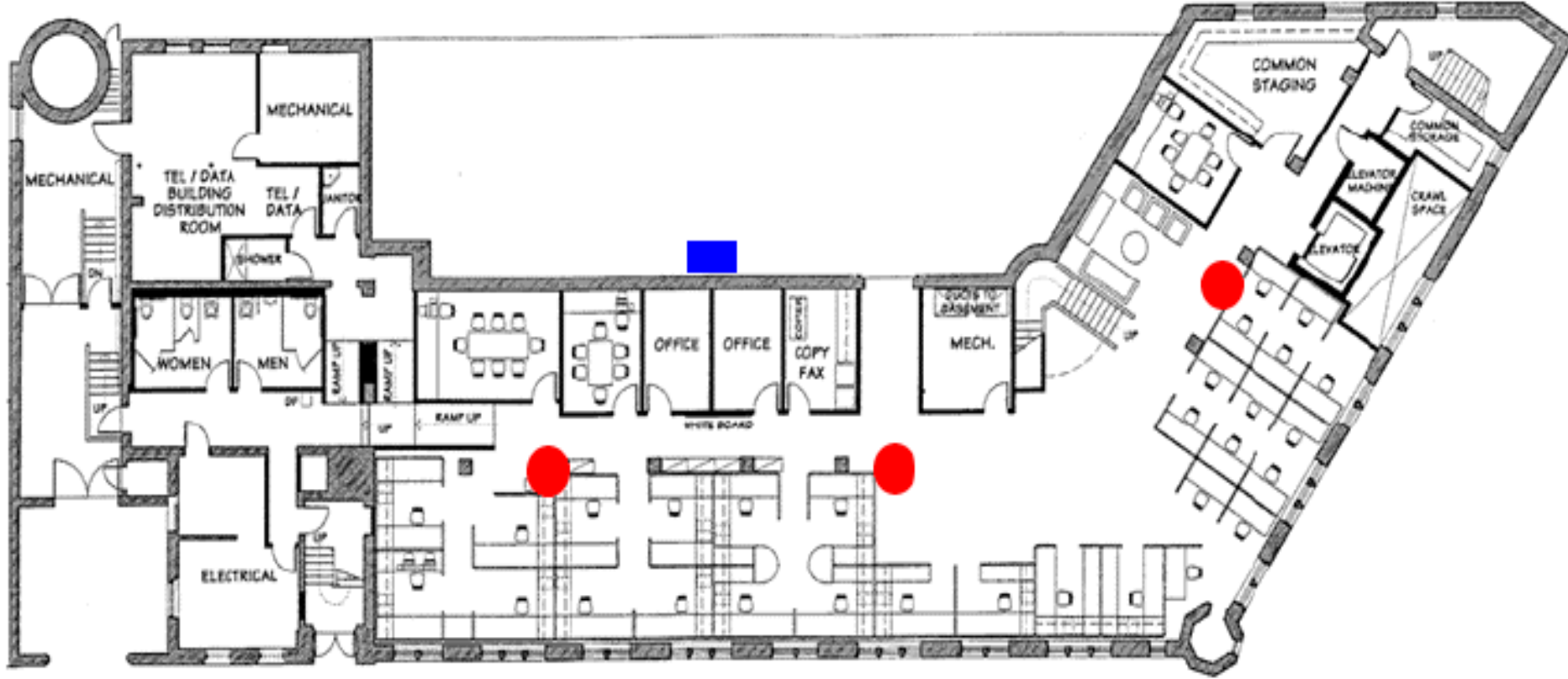
- *Is the wireless LAN going to be used indoors, outdoors, or both?*
- Are there frequent hurricanes or tornadoes occurring in this site's locale? Outdoor usage of wireless LAN gear creates many situations and potential obstacles to installing and maintaining a wireless LAN. As we discussed in prior sections, a strong wind can eliminate the signal on a long distance wireless link. If inclement weather such as ice or strong rain is often present, radomes (a domelike shell transparent to radio-frequency radiation, used to house RF antennas) might be considered for protecting outdoor antennas.

- Outdoor wireless connections are vulnerable to security attacks, since the intruder would not have to be inside the building to get into the network. Once it is determined that the survey is for indoors, outdoors, or both, obtain any and all property survey documents and diagrams that are available. Indoors, these documents will show you the floor layout, firewalls, building structure information, wiring closets, and other valuable information. Outdoors, these documents will show how far the outdoor wireless LAN can safely extend without significant chance of intrusion.

Bandwidth & Roaming Requirements

- *What bandwidth and roaming requirements are there?*
- The answer to this question can determine the actual technology to be implemented, and the technology to be used when doing the site survey. For example, if the client is a warehouse facility and the only purpose that the wireless LAN will serve is scanning data from box labels and sending that data to a central server, the bandwidth requirements are very small. Most data collection devices require only 2 Mbps (such as a computer on a forklift in a warehouse), but require seamless connectivity while moving. However, if the client requires that the wireless LAN will serve 35 software developers who need high-speed access to application servers, test servers, and the Internet, consider using 802.11a equipment.

Blueprints or floor plans



- Thank you.