

Negotiating Wi-Fi Deals

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If Wi-Fi is an access alternative for your enterprise, here's how to get a contract.

The times, they are a-changing. A recent survey of enterprise customers showed half of them expect over the next three years to deploy at least one wireless application—which for many may well be voice! (see *BCR*, December 2004, p. 6).

Wireless access, as a substitute for digital subscriber line (DSL) and other wireline Internet access, is fast coming into vogue. A popular variant today is IEEE 802.11 or Wi-Fi. Soon to be coupled with voice applications, Wi-Fi—as a complement to traditional carrier access arrangements—is emerging as a serious alternative for enterprise communications buyers.

For now, Wi-Fi offerings are targeted largely to users in public places (“hot spots”) or, in some cases, to hotels, building owners or other campus environments such as apartments and condominium developments. Wi-Fi is customarily delivered over a wireless local area network (WLAN) over relatively short distances, and its applications are currently limited to data.

Those limitations may soon disappear. Wi-Fi operates over unlicensed spectrum in the 2.4 GHz and 5 GHz bands at speeds from 1 Mbps up to 55 Mbps. Future offerings will soon include voice over IP (VOIP), enabling voice communications over the Wi-Fi network, while Wi-Fi’s current signal distance limitations will be overcome by a newer wireless technology, “WiMAX” (see this issue, p. 18–23). With WiMAX as an extension to premises-based Wi-Fi, the service could support speeds up to 75 Mbps over a 2–3 mile radius (see *BCR*, June 2004, pp. 30–37).

As with other emerging technologies, enterprise acceptance will be gradual. But as the technical alternatives prove real, business purchasing—and not just hot spot proliferation—will likely accelerate. For the enterprise user, now might well be a good time to consider a Wi-Fi deal with a service provider.

Wi-Fi Advantages

The benefits of doing so for both enterprise customers and suppliers are readily apparent. In addition to economics (discussed below), the provision of Wi-Fi—at least for now—is unregulated: Providers such as Wayport, Sprint and T-Mobile typically offer Wi-Fi either as Internet access, an unregulated information service, or as private carriage, a recognized exception to federal common carrier regulation. This carries with it a number of advantages.

First, current FCC rules exempt Wi-Fi Internet access from universal service fund (USF) charges, currently assessed on carriers at roughly 10 percent of interstate and international carrier end user revenues and typically passed on to end user customers.

Second, unregulated Wi-Fi transmissions, as they do not traverse the public switched telephone network, are not subject to switched local access charges. These access charges are assessed by local exchange carriers (LECs) on long distance carriers for their use of LECs’ access facilities for originating and delivering long distance traffic. Switched interstate access rates today average roughly half a cent per minute and are typically either passed through by long distance carriers to end users or built into their long distance rates.

Third—and perhaps most important—there is the welcome simplicity of negotiating a Wi-Fi transaction under commercial terms unfettered by tariffs and other regulatory constraints.

The following discussion reviews some of the deal points common to Wi-Fi contract negotiations, beginning with a brief description of a typical network configuration and the related underlying economics.

Wi-Fi Configurations And Economics

In a typical Wi-Fi configuration—for example, in a building, hotel, apartment or condominium (i.e., “campus”) environment—the owner or landlord will seek to bring Wi-Fi onto the property either as an amenity for tenants/unit owners or as a profit center, making the access available through either resale or sales commission with the provider. In either case, there will be an

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investment—in Wi-Fi equipment, infrastructure, implementation, testing, maintenance and (lots of) time—by both parties to the deal.

One caveat: As a result of the investment the provider must make in equipment and implementation, the provider will likely demand a contract term longer than the usual 2–3 year carrier deal—probably 5 years or longer. The provider will probably demand a clause providing for liquidated damages if the customer terminates early.

Nonetheless, Wi-Fi presents opportunities here for landlords to cut Internet (and eventually voice) transmission costs for the tenants and perhaps make a buck or two through a revenue sharing or commission with the provider. In this respect, Wi-Fi deals resemble the shared tenant services of old, where the “smart building” landlord became a telephone company of sorts, buying and sharing (for a fee) a single local telephone circuit with his tenants, each of whom would have access through a partitioned private branch exchange (PBX) in the basement.

The shared tenant model never succeeded in the PBX world, but Wi-Fi could be different. With shared-service PBXs, the provider had to pay measured-use tariffs to the local exchange carrier (LEC), which cut into the shared-service provider’s margins. As we noted above, Wi-Fi isn’t subject to such tariffs or access charges, eliminating that particular barrier to success.

A typical Wi-Fi system configuration will include wireless access points (APs), Wi-Fi antennas, Ethernet (Cat-5 or 6) cabling, Ethernet switch, gateway or server, router and broadband Internet access facility. The broadband access, connecting the Wi-Fi network on the premises to an Internet point-of-presence, may be over a T1 or DSL circuit, a cable modem or (eventually) WiMAX, and supplied by either the service provider or the landlord.

The APs are accessible by users with Wi-Fi compatible network interface devices, including PCs, laptops and personal digital assistants (PDAs). For users without a Wi-Fi network interface card (NIC), the provider or landlord will typically supply either the NIC itself or, alternatively, an Ethernet wireless bridge permitting transparent communications between the end user’s device and the AP.

For the customer, with or without commissions and notwithstanding the equipment investment, Wi-Fi economics can be compelling: add VOIP to the mix and they become even more so. Inbound voice connections today cost enterprises roughly 1–2 cents per minute for carrier-supplied inbound

or outbound service delivered over a dedicated (e.g., a T1) connection that may itself cost up to \$500/month in certain areas. In contrast, business DSL access arrangements used with Wi-Fi are under \$150 per month. And even when used with a full T1 with sufficient IP addresses, the cost of Wi-Fi access, depending upon location, can still be under \$500 per month.

In the future, once VOIP is deployed over the Wi-Fi network, the voice communications get to “ride free”: There are no per minute or per call charges whatsoever. In sum, once Wi-Fi is eventually combined with VOIP some time in the future, the service will likely be packaged as a fixed-price replacement both for:

- Broadband Internet access;
- Per-minute-priced voice service.

In addition, the service will provide a relatively inexpensive substitute for in-house distribution and LAN wiring. Taken together, the avoided costs are considerable and make Wi-Fi an especially attractive alternative for new buildings and campus developments.

The avoided costs could create a compelling case for a Wi-Fi service—especially once voice over WLAN emerges

Besides established providers including Wayport, T-Mobile and Sprint, Wi-Fi network services are available from specialized providers serving specific market segments such as hotels, cafés and city networks. APs are available from all major network equipment providers, including Cisco, HP, Proxim and Symbol.

The provider may be expected to supply all necessary network equipment for the system, typically after a location-specific site survey and analysis reflected in a written statement of work (SOW). The SOW will be a linchpin of the contract process discussed below.

Contract Structure and Deal Points

Procurement of a Wi-Fi network typically involves the customer leasing or purchasing the APs, Ethernet cabling and Ethernet switches, power supplies, gateway, server, software, NICs (or Ethernet wireless bridges) and perhaps even the personal computing devices (collectively, “CPE”). The provider will propose Wi-Fi network configuration, design and component identification through the SOW.

Once accepted, the SOW will be followed by a systems integration process, through which the service provider will tie together the CPE, end user devices and carrier-supplied transmission link with “live” Internet access. Once implemented, tested and accepted, the Wi-Fi network will be supported by the service provider under a multi-year service agreement prescribing the operations,

**In wireless,
rigorous
performance
testing is crucial
before
acceptance**

maintenance, software and other provider support obligations as well as the customer's payment obligations. All these elements are important, and the overall deal structure merits some thought prior to the negotiation "sit down:"

■ **Master Agreement**—The contract documentation will typically consist, first, of an overarching "master agreement," setting forth the general terms and conditions. To this document will be added the SOW, the CPE purchased/leased, service agreement, maintenance agreement and other attachments (e.g., milestone payment schedules, performance specifications, and—most importantly—the service level agreements or SLAs).

All these additional documents may be prepared as exhibits to the master agreement or as separately executed contract documents, tied together under the master agreement, for example through incorporation by references and "cross default" provisions. Such cross default clauses provide, for example, that a material breach of one agreement (e.g., the maintenance agreement) is also to be treated as a breach or default of another (e.g., the service agreement), thus permitting (for example) the customer to terminate all the agreements for a breach of only one of them.

■ **Statement of Work**—As indicated, there will also be a SOW, describing the Wi-Fi system that is to be implemented at each property, depicting the network design, site specifications, CPE specifications and other Wi-Fi implementation considerations, making this aspect of the transaction similar to a managed service agreement. Familiar managed service issues, such as what provider responsibilities are included (in scope) in the SOW price, arise here as well (see *BCR*, November 2004, pp. 22–26). Accordingly, the SOW, as the blueprint for the Wi-Fi network, should be subject to the customer's careful review and written acceptance.

■ **CPE Purchase or Lease**—It is advisable to separate the CPE contract from the service agreement to ensure the applicability of the Uniform Commercial Code (UCC) to the CPE part of the transaction. The UCC, adopted by almost all states, governs the sale and lease of goods, defined as items that are moveable at the time of sale. The UCC typically works to the advantage of the buyer or lessee of CPE, with "gap filler" provisions that prescribe otherwise unstated terms of sale (or lease), shipment, delivery, acceptance, warranties and revocation of acceptance. Among the UCC's advantages are the constraints that it imposes on the provider's warranty disclaimers, and its protections against remedies in the provider's contract that "fail of their essential purpose"—in short, are useless.

To invoke the UCC for CPE purchases, the contract must be *primarily* for sale of goods—not for services. Accordingly, the CPE purchase should be drafted separately from the provider service contract. On the other hand, the UCC applies to "any transaction, regardless of form, that cre-

ates a lease" of goods (UCC 2A-102), thereby arguably attaching to any CPE lease transaction. Still, where application of the UCC is contemplated, the agreement should expressly state just that, to avoid ambiguity.

In some circumstances, it may be advisable to draft the CPE purchase or lease as a separate contract, with cross defaults to the provider's service agreements (to which UCC protections would not apply). Finally, a CPE purchase, in addition to attaching the UCC purchaser protections, has the advantage of protecting the customer's interest in the CPE in event of the provider's bankruptcy.

Building Access And Occupancy

The provider will typically require the network equipment, gateways, servers and related cabling to be housed on the customer's premises—for example, in a telephone closet. This requirement raises (often contentious) issues common to commercial property leases: For example:

■ Whether the provider has a leasehold interest or easement (both property rights) or merely a license to occupy certain areas of the premises for the duration of the agreement.

■ Limitations on the provider's rights of access to the property—e.g., during business hours, compliance with security or escort procedures?

■ Is the provider's cabling or wiring to be treated as a fixture or as personal property, removable upon agreement termination?

■ Is the provider's network equipment to be deemed abandoned (and thus customer's property) if the provider fails to remove it within a certain limited period of time after the contract's termination or expiration?

■ The contract should also include customary insurance, indemnification and other protections from the provider's actions (or omissions) while on the property.

■ As to the customer, what are its obligations to prepare the site for equipment occupancy, to provide electricity or other utility service, to ensure suitable environmental controls and for equipment safekeeping?

Acceptance Testing And System Integration

As mentioned, the SOW will control the provider's obligations to a great extent. Once agreed upon, the performance milestones specified in the SOW, such as network equipment installation, provisioning of the Internet access facility and wireless testing should be subject to detailed acceptance and integration testing procedures, demonstrating that all components of the Wi-Fi system will work with "live data," not functioning in isolation from one another.

Acceptance procedures include:

■ Testing bandwidth "bursts" to ensure that agreed-upon maximum bandwidth promised by the provider is available.

■ Testing whether this bandwidth remains avail-

able during the burst for agreed upon intervals.

■ Testing with a number of simulated end users using the system simultaneously.

■ Testing power levels to ensure that antennas are set correctly (and have the service provider use directional rather than omni-directional antennas) as needed.

■ Testing the RF components for compliance with IEEE 802.11b (2.4 GHz/11 Mbps) or 802.11g (2.4 GHz/54 Mbps), with test results shared with customer).

■ Testing a number of common Internet applications (e.g., email, Web page downloads); if degradation occurs, the service provider should identify whether additional Internet access facilities (e.g., additional T1s) will cure the problem.

Also, a hallmark of all wireless LANs is that the radio frequency (RF) environment is in a continual state of flux, as physical space is reconfigured and users are added. To deal with this reality, the service provider should be able to monitor RF coverage remotely and make changes to the network equipment as needed.

Finally, the integration testing should be coupled with an integration warranty. The customer's payments should be based on a milestone schedule, with holdback of a portion of the purchase/lease price until acceptance testing of the integrated system has been completed and signed off by the customer. While the SOW specifics will vary, depending upon what the provider finds suitable for each site, the general acceptance and integration testing procedures can—and should—be drafted and agreed upon from the outset.

Performance And “SLAs”

There are performance issues, of course: Security, reliability and quality of service (QOS) can and should be addressed in the SLAs that should be incorporated in the agreement as performance warranties. The SLA performance parameters that are established between the provider and the customer should include committed information rates for bandwidth, as well as QOS guarantees expressed as maximum allowable packet loss, latency and jitter.

Other key parameters may include IP address assignments and compatibility with certain virtual private network (VPN) clients. For instance, most corporate information security policies require the customer's mobile workforce to install such VPN clients on their laptops for access to the corporate network. Consequently, the provider should warrant that its gateways and network equipment are compatible with these VPN clients (which should be identified in the agreement) so that the customer's mobile users do not have to change their laptop settings.

In addition, the provider should warrant that its network has adequate protection against denial of service (DOS) attacks and against outbound spam that may originate from a user (e.g., a guest at a

hotel room) at customer's premises. The provider's network architecture (including router and software) should provide security such as access control, detection of harmful packets, fault isolation and firewalls.

One issue meriting particular emphasis in Wi-Fi negotiations is congestion and interference. Wi-Fi spectrum, as indicated, is unlicensed, making it susceptible to interference from unlimited transmitting sources.

At a minimum, the contract should address how to detect such interference and prescribe procedures for mitigating the effect on the provider's performance—for example, by obligating the provider to promptly move the Wi-Fi communications to a different channel within the respective unlicensed band (together with a representation by the provider that it has the right to do so).

What happens if the provider fails to perform as expected? SLAs—the customary answer from the provider—often turn out to be glorified interruption credits, typically of limited value. The customer may well seek a stronger remedy, for example, partial agreement termination (walk-away rights) and damages (although difficult to negotiate) if replacement from a new supplier is required.

Often, however, walking away from the deal is not a realistic option, and customers may consider negotiating for “self-help” rights to fix problems on their own—and to offset the provider's charges for the costs of having to do so.

The provider, on the other hand, may also seek remedies from the customer if, for example, the use of the Wi-Fi service by the tenants, guests or occupants falls short of expectation. Sometimes these are styled as liquidated damages: dollar amounts payable by the customer if the Wi-Fi “penetration rate” fails to meet a predefined (typically annual) threshold.

These provisions should be carefully reviewed by counsel since state laws often limit such liquidated damages to circumstances where actual damages are difficult to establish, the liquidated amount is a reasonable one, and the payment does not constitute a penalty.

Exclusivity

The provider may well seek an exclusive arrangement with the customer, arguing—with some plausibility—that its investment of time and equipment expense is justified only if it is the sole provider (e.g., of broadband Internet access) at least for a certain period of time, at the property. The customer should resist—or at least carefully qualify—such an arrangement. The reason is that other providers—for example, satellite service providers, franchised cable company, local telephone carriers enjoying condemnation rights, or others—may well have legal rights to serve the property. Nor are such other providers' rights to be on the property easy to identify or discover in all

Wireless, by its nature, poses additional reasons to shun exclusivity clauses



As with any service, negotiate carefully when it comes to commitments

circumstances.

Tenants, moreover, may have the right to use over the air reception devices (OTARD) such as satellite dishes. Granting such exclusivity to the provider—without possessing the right to do so, or in contravention to third party agreements—could conceivably put the customer in instant breach of the agreement.

Finally, FCC rules prohibit telecommunications carriers from entering into exclusive service agreements with landlords in commercial buildings—a factor which could become an issue if the Wi-Fi services include voice.

Purchase Commitments And Other Deal Points

Enterprise customers of carrier services are long familiar with purchase or “revenue” commitments. The Wi-Fi contract, too, will likely include customer commitments, although they may be styled differently. In a tenant/guest environment, the commitment may be measured in terms of market penetration, such as “signups.” In an enterprise environment, there may be multiyear, “take or pay” purchase commitments—i.e., obligations to pay a minimum charge irrespective of whether the service is actually used.

As with carrier service contracts, the customer

should negotiate for protections in the event that, for whatever reason, it is unable to meet such commitment(s). Among these are “spend” cushions; distinguishing discounted from undiscounted contributions; and shortfall treatment (e.g., “rollover” and “rollback” rights). Finally, technology upgrade and business downturn clauses—enforceable ones that obligate (not just permit) the provider to reduce the commitment—should be addressed in the agreement as well.

Conclusion

Negotiating a Wi-Fi contract is a complex undertaking—but one that may prove well worth the effort. This discussion identifies at least some of the issues that may arise□

Companies Mentioned In This Article

- Cisco (www.cisco.com)
- HP (www.hp.com)
- Proxim (www.proxim.com)
- Sprint PCS (www.sprintpcs.com)
- Symbol (www.symbol.com)
- T-Mobile (www.tmobile.com)
- Wayport (www.wayport.com)