Hotspot Managed Services

Description of Services

Introduction

Wireless, high-speed Internet access is rapidly becoming widespread, largely due to the popularity of Wi-Fi, the wireless standard known as 802.11b. Broadband Internet access is particularly gaining momentum in public areas or 'hot spots', such as airports, hotels, and cafes. Users with Wi-Fi enabled laptops or PDAs can now gain immediate Internet access if they are within range of a Wi-Fi access point. Gaining access is fast, easy and affordable.

Pronto Networks has developed a cost-effective, plug-n-play Wi-Fi access device exclusively designed for hot spots. Pronto Networks offers this access device and runs all the back-office operations for hotspot locations as part of its Hotspot Managed Services.

How It Works - Initial Setup & The Customer Experience

Once a service provider signs up a location as a 'hotspot,' the service provider works with the property owner in determining how the service will be offered, branded, and marketed. This involves determining such things as end-user pricing, allowable authentication/billing methods, layout of the web portal seen by users, number of free coupons to be offered, etc. Once determined, the service provider sends Pronto Networks all the necessary configuration and network policy information, either via a web-based interface or over the phone. Pronto Networks then implements the policies at its Network Operations Center (NOC).

The next step is to setup the hot spot location. For small hot spot locations, such as a restaurant or café, Pronto Networks can ship a pre-configured Hotspot Controller directly to the location where the property owner or employee can simply connect the device to an existing Ethernet line, such as a DSL line and plug-in the power supply. Once connected, the Hotspot Controller is remotely detected and configured from Pronto's NOC. For large hot spot locations, such as airports or hotels, the service provider or an authorized Pronto reseller can determine the optimal network design for several Hotspot Controllers and perform the on-site installation, usually for an extra fee. Again, once installed, all Hotspot Controllers on the network are detected and remotely configured from Pronto's NOC.

At this point, the hot spot is ready for service. To immediately gain access, users simply launch a browser from their Wi-Fi-enabled laptop or PDA at the hot spot location. The user then views the customized home screen describing the services available and information specific to that location.The home screen also instructs the user on several options for gaining and paying for access. These include:

- *Credit card*: Users can simply enter their credit card information for authentication and billing by a third-party.

- *Pre-paid card*: Users can purchase pre-paid cards at the hot spot location, if offered, and enter the card number for immediate access. Users can also purchase additional minutes for their card on-line.

- *Service provider account*: Users can be authenticated by a number of methods as determined by the service provider, such as via a Yahoo or MSN Passport account, an SMS account, or a new userid/password account established with the service provider. Pronto sends a service provider-branded bill at the end of the month and collects fees from the end-user.

- *Coupon*: Users can be authenticated by a coupon number issued by the property owner and service provider, if desired. A coupon would allow the user a pre-determined number of free access minutes, as determined by the property owner and service provider.

Once the user has been authenticated and has entered payment information, he/she can access the Internet or the corporate LAN, all at broadband speeds. To disconnect, the users simply clicks a log-off button and the correct amount is charged to the selected billing method.

Hotspot Stakeholders

The cooperation and active participation of several stakeholders is required to offer hot spot services. These stakeholders include:

Property Owners: Property owners control the location where wireless broadband services are to be offered. Typical hot spot locations are public areas where business travelers and consumers will value having high-speed, wireless Internet access.

Service Providers: Service providers often have existing relationships with property owners and excel at customer acquisition and marketing. In a managed service model,

the service provider will be acting more as a "virtual service provider," focusing exclusively on front-end operations such as customer acquisition and co-promotional activities with the hot spot owner.

Pronto Networks: Pronto Networks is a leading wireless infrastructure provider with extensive network operations expertise. Pronto Networks provides all the infrastructure (excluding the Ethernet backhaul connectivity) for the hot spot location and runs all back-office operations.

Fixed Line Operators: Fixed line operators provide the fixed broadband connectivity to the hot spot location. Examples of fixed line operators are DSL or cable providers. In the Hotspot Managed Services model, the fixed line operator can either just provide the backhaul connectivity to the hot spot location or may also choose to assume the role of the service provider described above.

Roles & Responsibilities

Each stakeholder has several core responsibilities to perform under Pronto's Managed Service business model (see Figure 2). In general, property owners and servic providers have front-end or customer-facing responsibilities, whereas Pronto Networks assumes all back-office operations and infrastructure responsibilities. These are described in more detail below.

Hot Spot Signup: The service provider is responsible for identifying and signing up property owners as hot spot locations. Typical hot spot locations include airports, hotels, restaurants/cafes, train stations, multi-dwelling units, college/university campuses, etc.

Hot Spot Attractiveness: The property owner is responsible for the attractiveness of the location and the ability to attract customer traffic. The location needs to be a place where people can comfortably use their laptops and/or their PDAs.

Site Survey/Network Design: For more complex loca-

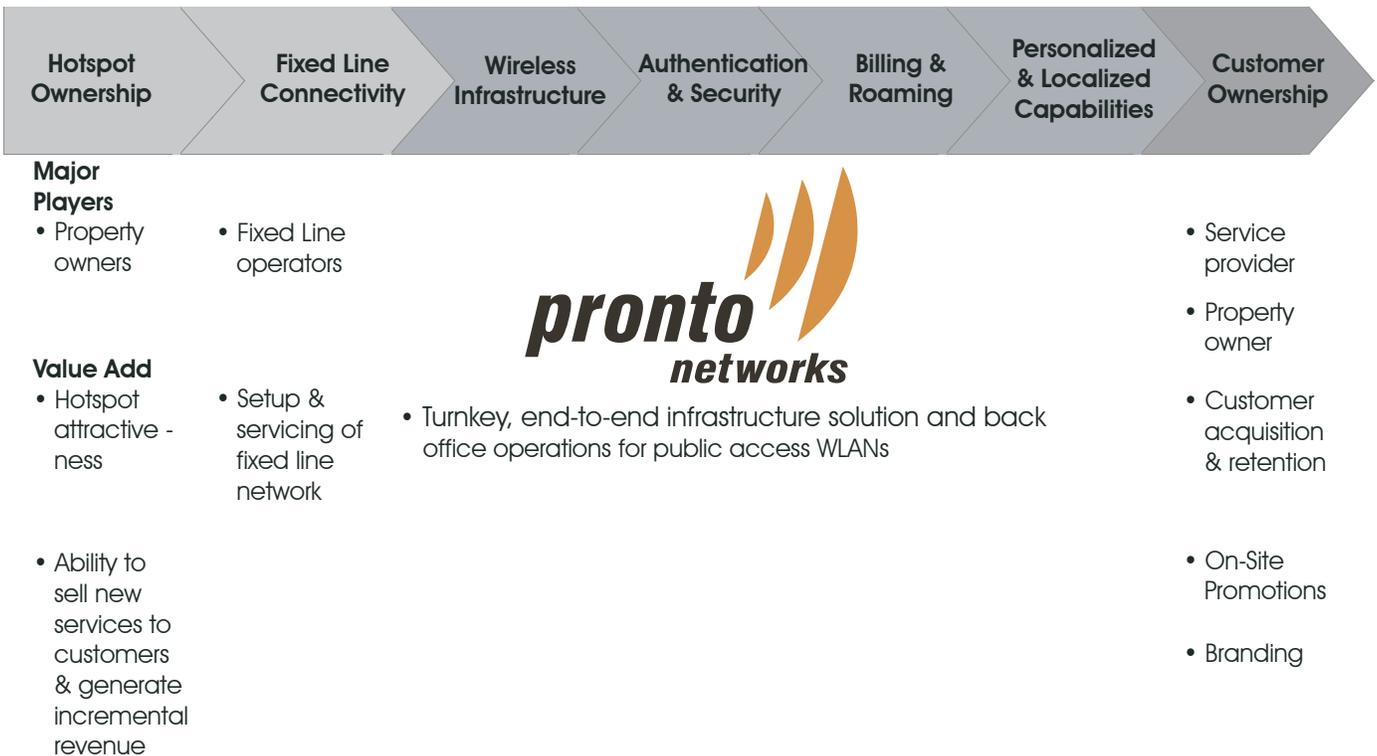### Figure 1: Stakeholders within Hotspot Business Model

Hotspot Ownership	Fixed Line Connectivity	Wireless Infrastructure	Authentication & Security	Billing & Roaming	Personalized & Localized Capabilities	Customer Ownership

Major Players
- Property owners

- Fixed Line operators

• Turnkey, end-to-end infrastructure solution and back office operations for public access WLANs

- Service provider
- Property owner

Value Add
- Hotspot attractive-ness

- Setup & servicing of fixed line network

- Customer acquisition & retention

- Ability to sell new services to customers & generate incremental revenue

- On-Site Promotions

- Branding

Figure 2: Roles & Responsibilities within Hotspot Business Model

	Property Owner	Service Provider	Pronto Networks
Hot Spot Signup		X	
Hot Spot Attractiveness	X		
Site Survey / Network Design		X Complex deployments only	
On-Site Installation	X Simple deployments	X Complex deployments	
Network Policy Determination	X	X	
Back-end Configuration			X
Web Portal Configuration	X	X	
Marketing / Customer Acquisition	X	X	
Usage Monitoring	X	X	
Back-Office Operations			X
System Maintenance			X

tions, such as airports, train stations, and large hotels, a site survey and network design will need to be conducted to optimize the wireless system performance. These services can be performed either by the service provider, an authorized Pronto reseller, or by Pronto Professional Services for an additional fee.

On-Site Installation: For simple hot spot deployments, such as at a restaurant/café or retail outlet, a non-technical employee or property owner can easily install the Hotspot Controller. For more complex deployments (i.e., at airports, hotels, etc.), either the service provider, an authorized Pronto reseller, or Pronto Professional Services will be able to provide installation services on a fee for service basis. If the property owner and service provider want to offer printing services, a printer can be easily connected to the USB port on the Hotspot Controller. The property owner also has the option of creating a DeMilitarized Zone (DMZ). A DMZ would allow employees to access the Internet or corporate LAN via the Hotspot Controller without authenticating while disallowing public end-users access to the corporate LAN.

Network Policy Determination: The service provider and property owner determine the network policies for the hot spot location. Such network policies include:

- End-User Pricing: The service provider and the property owner jointly determine what end-users should be charged for the service. Both parties will determine if hourly or daily rates will be offered and/or monthly subscriptions. The property owner may choose to offer these services for free to end-users, and treat the cost of offering these services as part of their marketing costs.

- Allowed Authentication Methods: current authentication methods available include simple userid/password, Yahoo or MSN Passport accounts, or a SMS account.

- Quality of Service Controls: service providers and property owners can choose to allocate bandwidth to users and/or prioritize traffic from certain users (i.e., such as VIP customers) over other users (i.e., such as free trial users).

- Available Hours of Service: Property owners may want to only offer the service in off-peak business hours in order to maximize customer throughout.

- Number of Free Access Coupons: To encourage end-user trial, property owners and the service provider may choose to allocate a certain number of free access coupons to end-users each month.

- Printing Services: Property owners and service providers may chose to offer printing services to end users and charge on a price per page basis.

Back-End Configuration: Pronto Networks implements the policies determined by the service provider and property owner. Pronto also performs all initial configuration remotely on the Hotspot Controller once connected and plugged in at the hot spot location.

Web Portal Configuration: The service provider and the property owner determine the content of the web portal viewed by users at that hot spot location and can leverage existing templates provided by Pronto Networks. Home pages often include the logo of the hot spot location as well as site specific information (such as other goods and services offered at that hot spot location). Home pages also frequently include the logo of the service provider providing the broadband wireless services (i.e., some type of "powered by service provider A" attribution.) The service provider and property owner also determine what "white pages" are to be made available to end-users. White pages are web pages that can be accessed without logging on to the Internet and often contain more information about the hotspot venue, wireless services being offered, etc.

Marketing / Customer Acquisition: The service provider and property owner determine what marketing activities will be done at the hot spot location to promote the service and to acquire end-users.

Examples include:

- Providing free-access coupons
- Offering pre-paid cards
- Developing and printing fliers/tents creating awareness of and/or promoting service
- Tie-ins to other products/services offered at the hot spot location
- On-line transaction incentives on the hot spot web portal pages
- Selling ad space on home screen to nearby establishments

Usage Monitoring: Pronto Networks provides web-based management tools to both service providers and property owners so that they can monitor network activity and usage real-time. These tools will enable property owners and service providers to monitor the effectiveness of various promotional efforts.

Back-Office Operations: Pronto Networks performs all back-office operations required for the hot spot location, including:

- *Billing and Revenue Distribution*: Pronto Networks tracks end-user activity and bills the end-users via their credit card or user account. At the end of the month, Pronto Networks electronically distributes the revenue to the service provider.

- *Network Monitoring*: Pronto Networks provides 24/7 monitoring of hot spot locations to ensure the availability of these networks.

- *Customer Service*: Pronto Networks provides customer service for end-users, property owners, and service providers via an 800 number, webchat and email 24 hours a day, 7 days a week.

- *Reporting*: Pronto Networks provides on-line reports to service providers, property owners and end-users so that each party can track/monitor relevant usage statistics.

- *System Maintenance*: For a minimal monthly maintenance fee per Hotspot Controller, Pronto Networks provides all system maintenance, including regular remote software upgrades, replacement services, etc. All Hotspot Controllers will be periodically updated with newer versions of Pronto's Hotspot Networking System and the latest features and security standards. In the rare event of a hardware failure, Pronto Networks will ship overnight a replacement unit to the hotspot location.

Business Model

Below is an illustration of the costs and revenues associated with setting up and operating a simple hotspot location:

Setup & On-going Costs

Equipment: The service provider purchases the Pronto Hotspot Controller from Pronto Networks. For illustrative purposes, the list price for the Hotspot Controller is approximately $800. The service provider has the option of charging the property owner for the Hotspot Controller at cost or at a small mark-up.

Broadband Backhaul Connection: In most situations, it is assumed that the property owner already is paying for an Ethernet backhaul connection. Thus, no incremental

connectivity costs are required to offer hot spot services.

On-Site Installation: In the example below, the property owner or employee will be able to connect and plug-in the Hotspot Controller with no on-site assistance.

Maintenance: The service provider pays Pronto Networks approximately $10 per month per Hotspot Controller for maintenance of the wireless network.

Revenue Sharing

Revenue will be split among the following parties as follows:

Property Owner and Service Provider: Both parties split 75% of the end-user revenue. The property owner and service provider decide how the amount will be divided between parties.

Pronto Networks: Pronto receives 25% of the end-user revenue for providing all back-office operations and customer service to property owners, the service provider, and end-users. Pronto is guaranteed a minimum of $3 per registered user per month to cover minimum staffing requirements for setting up operations.

Revenue is based entirely on end-user usage. Both the property owner and service provider is responsible for driving end-user usage. Pronto Networks electronically distributes the revenue to service provider at the end of each month.

Business Model Example

The next page provides a typical example of the costs and revenue associated with setting up a small hot spot with one Hotspot Controller. In this example, payback for the service provider's initial investment of $800 is less than 2 months. The property owner receives additional revenue related to the wireless service immediately in the first month. The example does not account for new sales of core products/services to the property owner due to additional traffic related to offering the wireless service.

Major assumptions include:

- An average of 3 users per day
- An average daily rate of $8
- Revenue split of:

  - 65% to Service Provider

  - 25% to Pronto Networks

  - 10% to Property Owner

- No on-site installation fee
- Purchase of Hotspot Controller by Service Provider for $800
- One-time hot spot acquisition cost of $200 for the service provider
- Marketing / promotional expenses of $10 per average number of daily users, split by the property owner and service provider
- Maintenance fee of $10 per month

Figure 3: Business Model for Small Hotspot Deployment

	Month 1	Month 2	Month 3
REVENUE			
Avg # of users per day	3	5	10
Avg price per day	$8	$8	$8
Total monthly revenue	$720	$1,200	$2,400
65% to service provider	$468	$780	$1,560
25% to Pronto Networks	$180	$300	$600
10% to property owner	$72	$120	$240
COST			
Acquisition cost per hotspot	$200	$0	$0
Hotspot Controller equipment & installation	$800	$0	$0
Maintenance fee	$10	$10	$10
Marketing			
50% paid by property owner	$15	$25	$50
50% paid by service provider	$15	$25	$50
Total monthly cost	$839	$60	$110
PROFIT			
Profit to service provider	($356)	$745	$1,500
Profit to property owner	$57	$95	$190