Public Internet Service:

A technical plan for businesses that provide Internet for the public

Presented by John D.Barker, Ph.D., MIEEE

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Internet Technology Answers Inc.

www.InternetTechnologyInc.com

Internet Technology Answers Inc. is a technology consulting firm with three areas of activity.

- **Cybersecurity : protection of businesses from data theft and ransomware.**
- **Mobile broadband technology: provisioning of Internet services for mobile devices.**
- **Fixed broadband technology: FWA/ISP/WISP/fiber subscriber service delivery management.**

Public Internet Service: A plan for businesses that provide Internet for the public

- **Who needs public WiFi Internet?**
- **Business use cases for public Internet**
- **Technologies for public Internet**
- **Summary**

INTRODUCTION:

Many businesses and organizations have to provide an Internet WiFi service for the public. In some cases the Internet service is an essential part of doing business, for example with motels and hotels. In other cases the Internet service will reduce the demand for specialized services, for example an airport that provides WiFi Internet for travelers can eliminate the cost of one or more information kiosks.

Some businesses are established to sell the Internet service to mobile customers, a good example is an Internet café. There are subscription businesses like Boingo that pay a fee to use WiFi Internet infrastructure at locations such as airports in order to sell an Internet subscription to travelers.

Providing public Internet services is more complex than it seems. This presentation will clarify the technology, methods and use cases.

Applications

Free WiFi Internet

- Motel, hotel
- Resort
- Retail
- School
- Gym, hair salon
- Airport
- Restaurant
- Coffee bar
- Clinic waiting room
- Church (restricted access)
- Municipal office
- Library
- Shopping mall
- Apartment building
- Sports event
- Auto dealership

Partially paid WiFi

- Hotels charge for high speed access
- Airports charge over 30 minutes
- Trade shows charge visitors
- Aircraft WiFi is free only for frequent flyers
- Student accommodation
- Multi-unit buildings condo fee

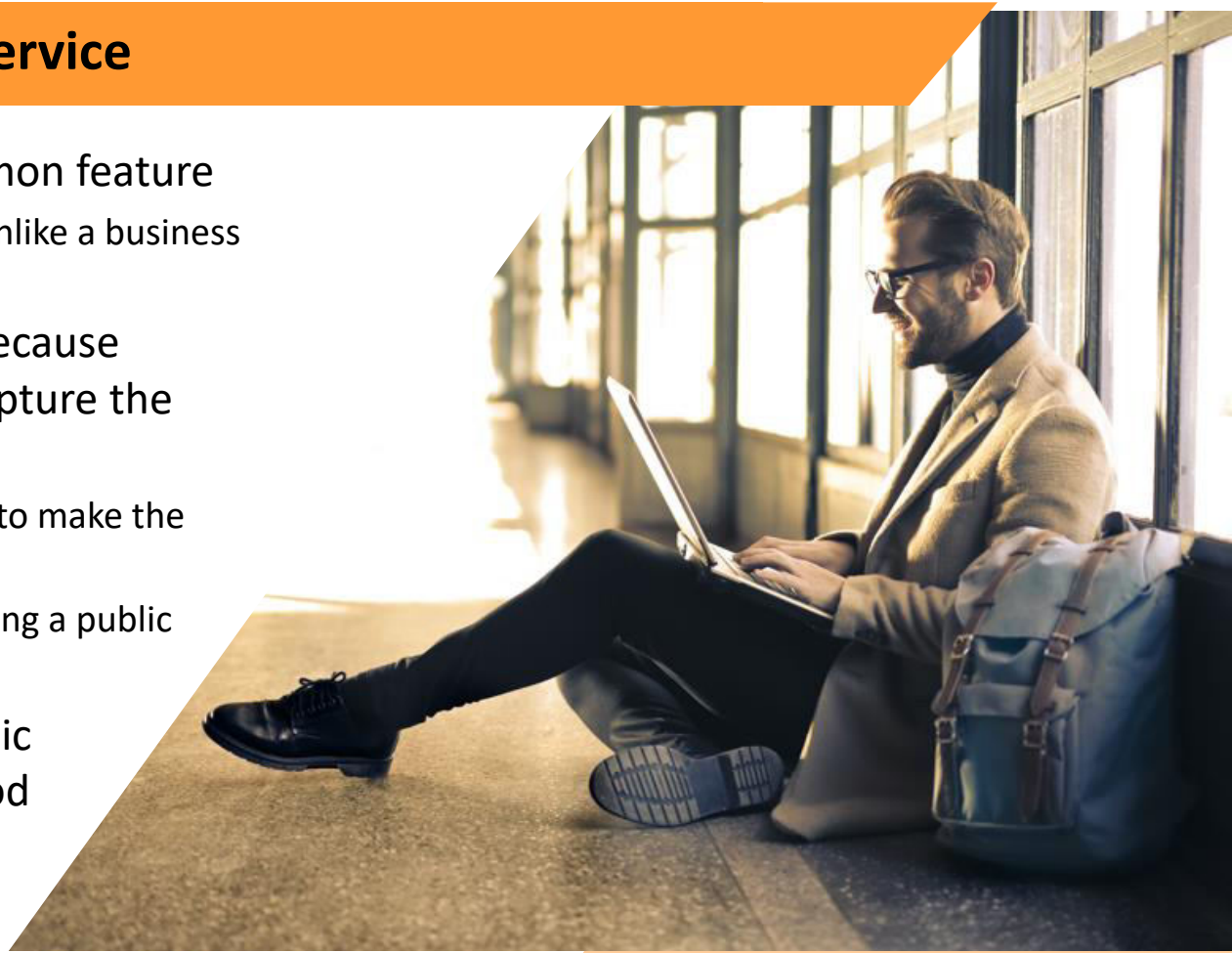
Paid WiFi Internet

- Subscription service, e.g. Boingo for airports
- Mobile broadband paid on-line or with voucher purchase
- Internet cafés
- Marinas
- Campgrounds
- RV parks
- Aircraft WiFi
- Cruise ship WiFi

Public WiFi Internet is essential for locations such as wilderness parks that have no 4G/5G coverage, providers will charge for the Internet service

Characteristics of a public WiFi service

- Internet WiFi Hotspots have one common feature
  - The Hotspot WiFi signal is not encrypted, unlike a business network that has WPA2 encryption
- A WiFi Hotspot is considered unsafe because anyone with ‘hacking’ software can capture the messages
  - Companies like Apple incorporate features to make the access to unencrypted WiFi difficult
  - It is wise to use a trusted VPN when accessing a public WiFi Hotspot
- There are many situations where public WiFi is the only Internet access method
  - International travelers at airports, no roaming
  - Wilderness campgrounds, no 5G
  - Etc.



Thousands of businesses have installed public Internet services

- Public Internet products have been installed by many franchise chains that include restaurants, hospitality and service businesses (gyms, airbnb, etc)
- Public Internet products are essential for hospitality businesses to attract customers: motels, hotels, resorts, RV parks, campgrounds

Some well known businesses that provide a public Internet service

Mobile broadband Internet service providers

- Systems integrators interface gateway product API's to a subscription billing system
- International mobile broadband Internet service providers
  - Internet service in high traffic areas, airports, public transport
  - Subscription service for frequent users
  - Credit card sales for temporary users

- Mobile broadband Internet service providers
  - Internet service for a small urban or rural area
  - Wireless at one or more locations (may be supermarket, Internet café, etc.), customers connect their mobile devices at the wireless location
  - Charge for the service with cash sales by selling receipts or vouchers with access codes
  - A popular Internet service sales model for some business types such as campgrounds
  - This service is called "Internet-por-ficha" in Spanish

Customer segment applications

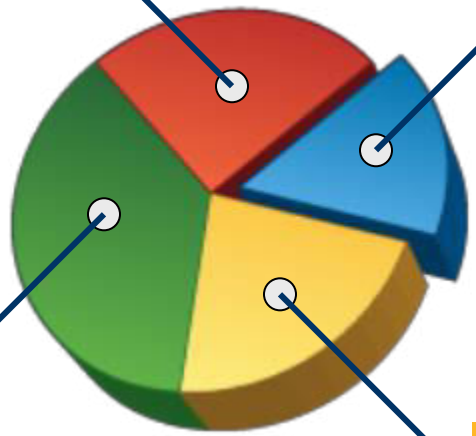
Business use cases are illustrated for each of the four customer segments

Managed Service providers (MSP's)

MSP's install Managed WiFi networks in a wide range of businesses and charge a monthly fee to manage the service. MSP's provide managed WiFi services in hotels, campgrounds, RV parks, tradeshows, etc.

ISP and Community services

ISP's provide mobile broadband WiFi services for urban areas, residential developments, commercial buildings, and condominiums



Business WiFi Internet Hotspots

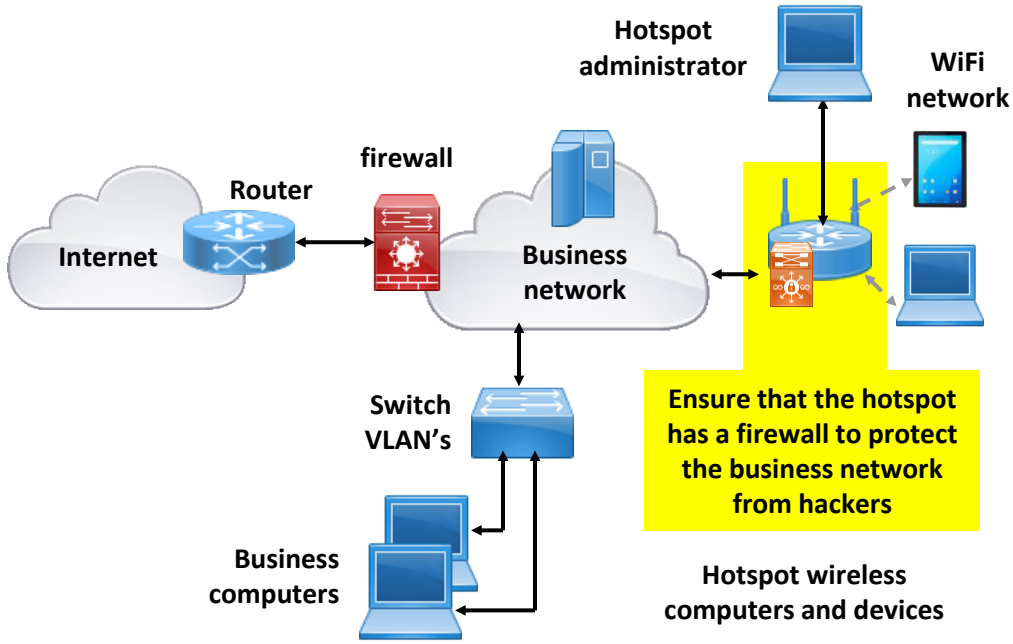
All models of Guest Internet products installed by end-users and configured using the product UI for stand-alone public Internet applications
Motel, hotel, retail, services, bars, restaurants

Systems integrators

Integrate with 3rd party applications using the Guest Internet API suite, in both product and cloud
PMS systems: Oracle Opera, etc.
Park reservation systems: RV parks, campgrounds

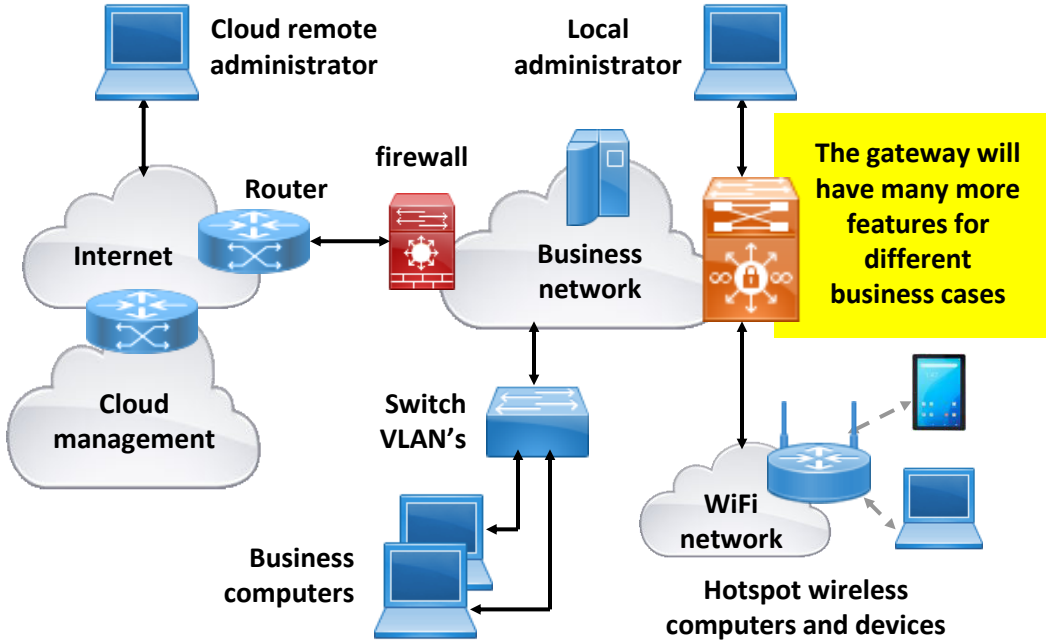
Wireless hotspot products for small, medium businesses

- A hotspot wireless gateway product can be added to the business network for access by guests and visitors however a firewall must be installed to protect the business network
  - Motels
  - RV parks, campgrounds
  - Service, gyms, salon
  - Retail
  - Libraries
- It is necessary to have Internet service bandwidth available for the number of expected users
- It is recommended to have a minimum of 2Mb/s per user
  - If 50 users are expected then install a 100Mb/s circuit



Gateway hotspot products for medium, large businesses

- An Internet gateway product is installed when multiple wireless access points are required to cover a large area, such as a hotel or resort property
  - Hotels, resorts
  - Trade shows
  - Sports stadiums
  - Airports
- Gateway products have more features that are necessary for different business requirements
  - VLAN access for multi-use wireless networks
  - Multi-tier login with optional on-line credit card billing
  - Multi-WAN for high reliability
  - Cloud management for managed service providers
  - API's for integration with 3rd party software, PMS
  - Firewall to protect the business network, PCI-DSS compliant

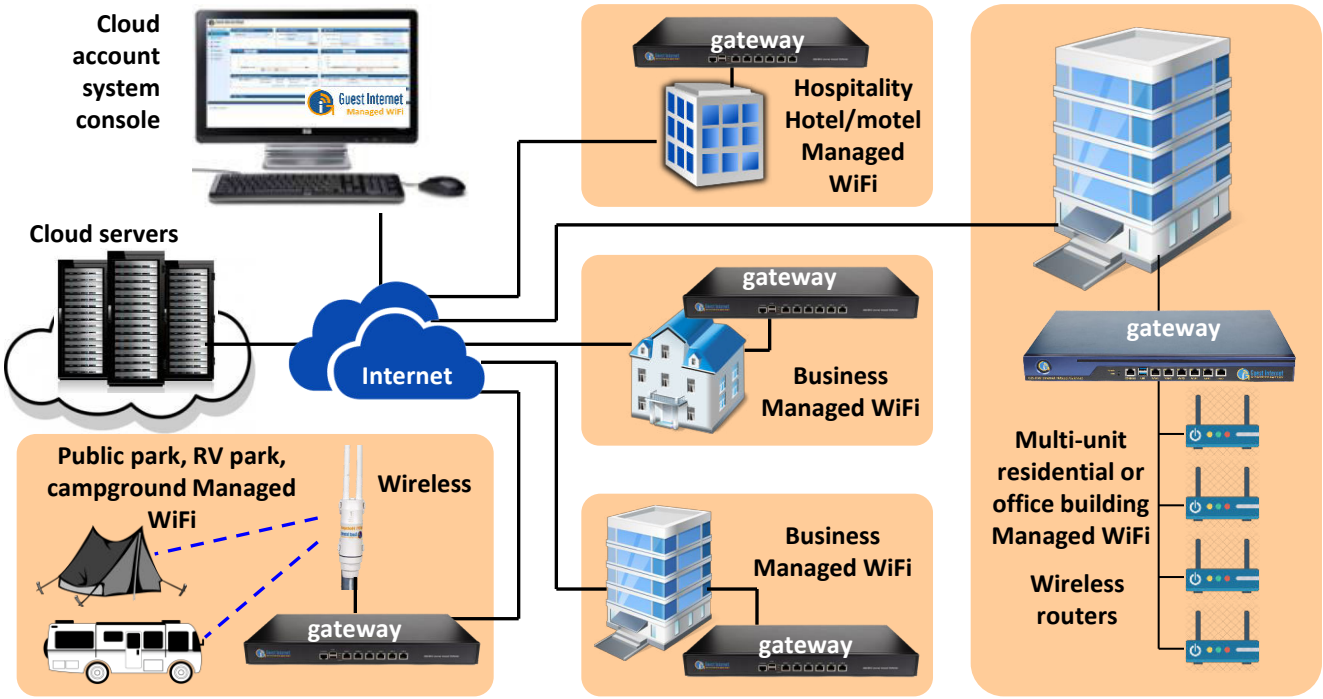


Managed service providers (MSP's) need Hotspot tools

- Managed service providers (MSP's) install public Internet services for many different types of businesses
  - Hospitality: motels, hotels, resorts
  - Vacation: RV parks, campground, caravan parks
  - Travel: airports
- MSP's need a cloud management tool to sell a managed service to their customers
  - Remote management with configuration changes
  - Failure monitoring and alerting
- MSP's may require an application program interface (API) to integrate with software that they use

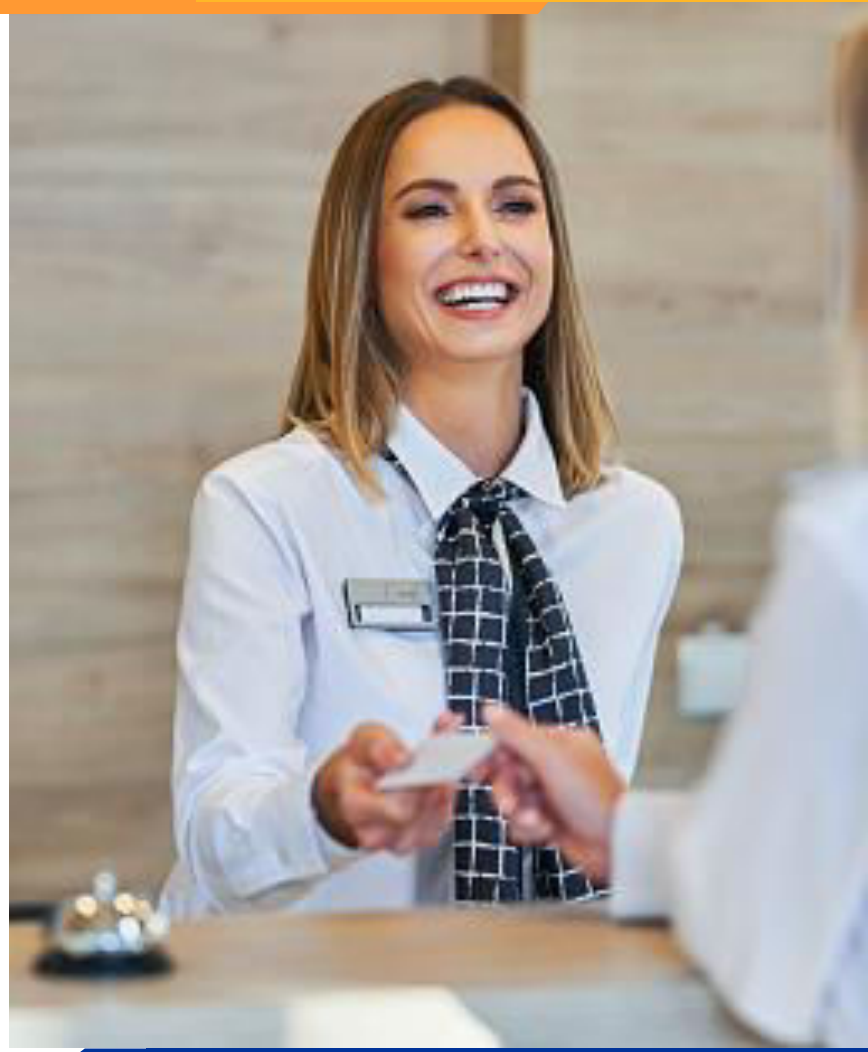
Cloud service functionality for MSP's

- MSP's need a cloud service for the Internet gateways that provides remote monitoring and management for one or many products
  - Monitor gateways for failure, email alerts
  - Monitor wireless access points for failure, email alerts
  - Create gateway groups to manage multiple MSP customers
  - Monitor traffic stats for each gateway
  - Monitor traffic stats for each group
  - Log messages from each gateway



Managed WiFi integration with business systems

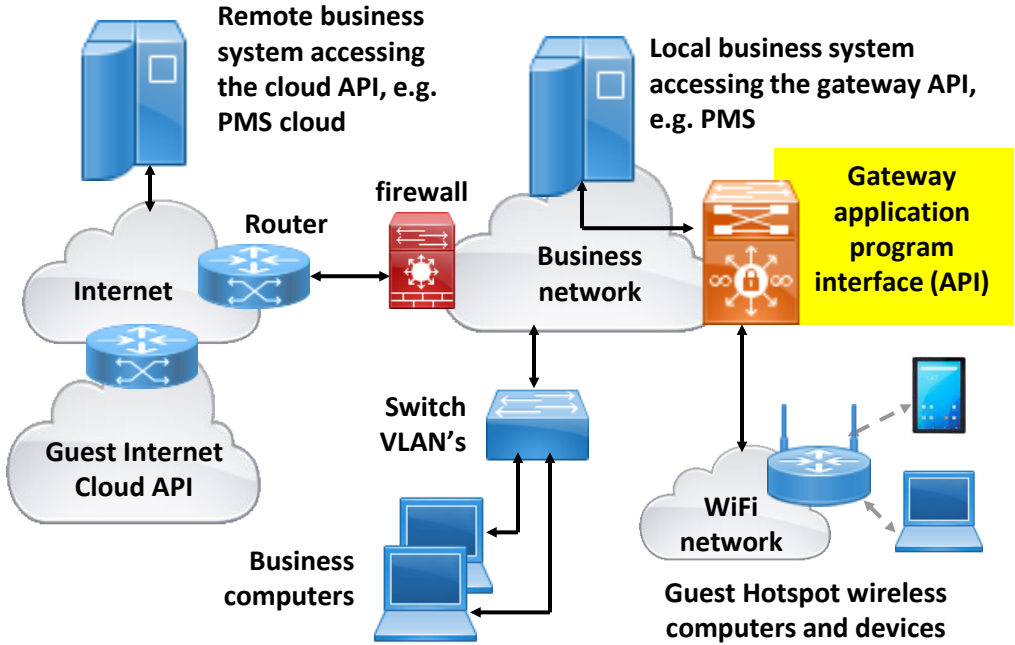
- Example: Hotels want the Property Management System (PMS) to manage the guest WiFi Internet service
- When the guest checks in:
  - The PMS creates an Internet access code valid for the duration of the guest stay or longer, setting the data speed for the guest
  - Preferred guests in the loyalty program are given a code with a faster data speed
  - The PMS communicates with the GIS API to activate the code and then prints the code on the guest check-in document
- When the guest checks out:
  - The PMS communicates with the GIS API to cancel the guest Internet access code



NOTE: The PMS software is configured by the company contracted by the hotel to provide support and maintenance

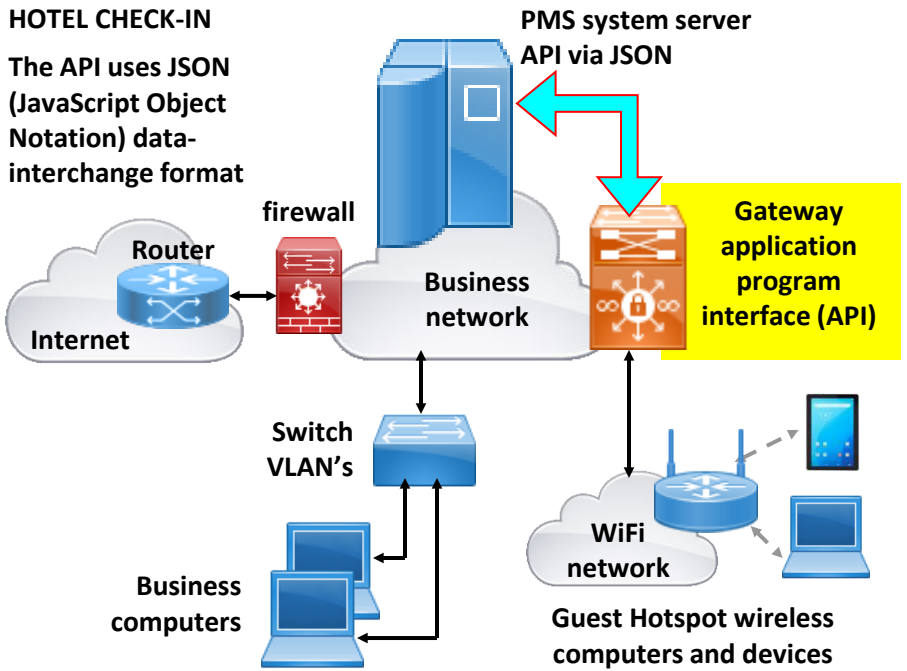
Managed WiFi Application Program Interface (API)

- 3rd party software systems can access the gateway API to implement guest WiFi management functions
  - Local access via the gateway API
  - Remote access via the cloud gateway
- There are many applications for the API, see some applications that systems integrators have developed
  - Hotel check-in system, give the Internet access code to the guest on arrival (e.g. Oracle Opera PMS property management system)
  - Campground reservation system, email the Internet access code to the customer when making the online reservation
  - A service company issues free Internet access codes to preferred customers, while other customers pay for the service



API Interface procedure for a hotel PMS system

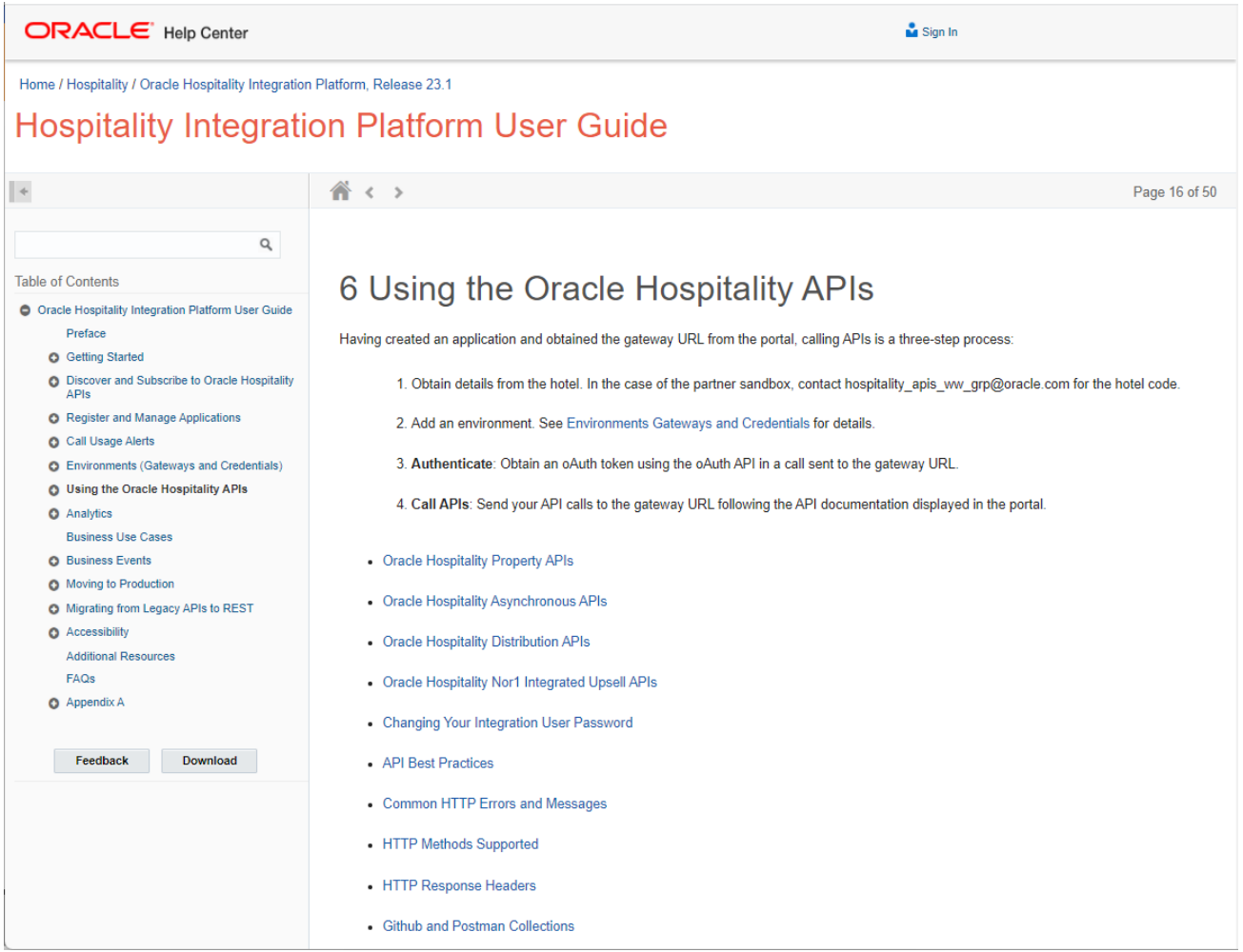
- The hotel management will decide how the WiFi will be activated by the property management system (PMS)
- Many hotel PMS systems are configured to provide Guest WiFi as follows:
  - When the guest checks in the front desk enters the guest information and the PMS allocates a room number
  - The PMS also generates a unique access code, this might be the 3-digit room number and the first 3 letters of the guest name
  - The PMS sends this code to the Internet gateway via the API so that the code is activated
  - The front desk gives the guest the room number and WiFi code generated by the PMS
  - Each room has instructions to tell the guest how to connect to the WiFi
  - When the guest checks out the PMS sends the WiFi code to the Internet gateway API to deactivate it



The PMS has to be configured by the authorized service provider to activate the WiFi code generation and interface the PMS API with the gateway API

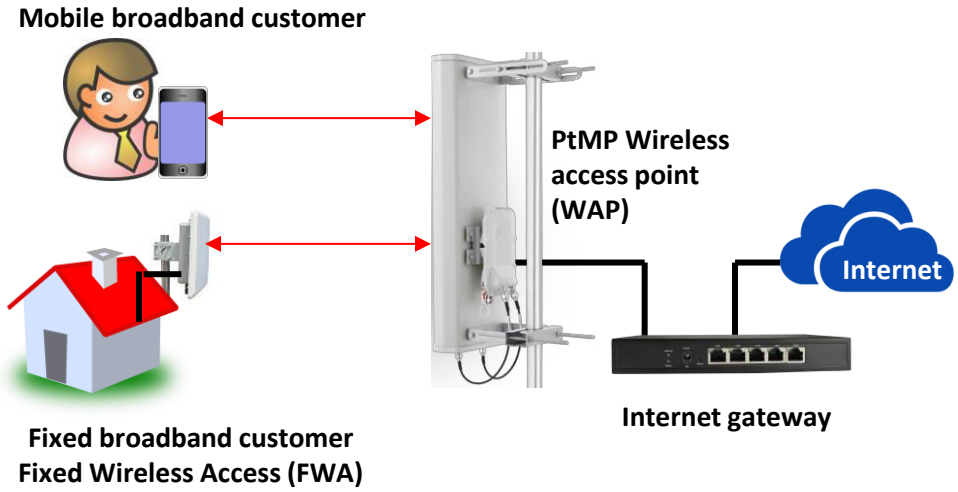
Oracle Opera PMS system API Interfaces

- Oracle Opera property management system (PMS) is installed by approximately 50% of the world hotel groups
- Oracle Opera has a comprehensive suite of API's to integrate third party products and services
- Many hotel chains use Opera to manage the guest WiFi
- Other PMS software products also have API's to integrate with 3rd party products, like WiFi



Internet service providers use gateway products

- WiFi broadband Internet services are sold or provided in two formats
  - Unencrypted WiFi for mobile devices
  - Encrypted WiFi for home WiFi receivers, called Fixed Wireless Access (FWA)
- Businesses that sell WiFi Internet access for the public (mobile broadband)
  - Charge online for daily rates using a credit card
  - Print vouchers with daily/weekly charges and sell for Internet access (popular in Latin America, called “Internet-por-ficha”)
- Organizations that provide a community service WiFi Internet (FWA)
  - Authenticate the customer WiFi receiver using a MAC address authentication code

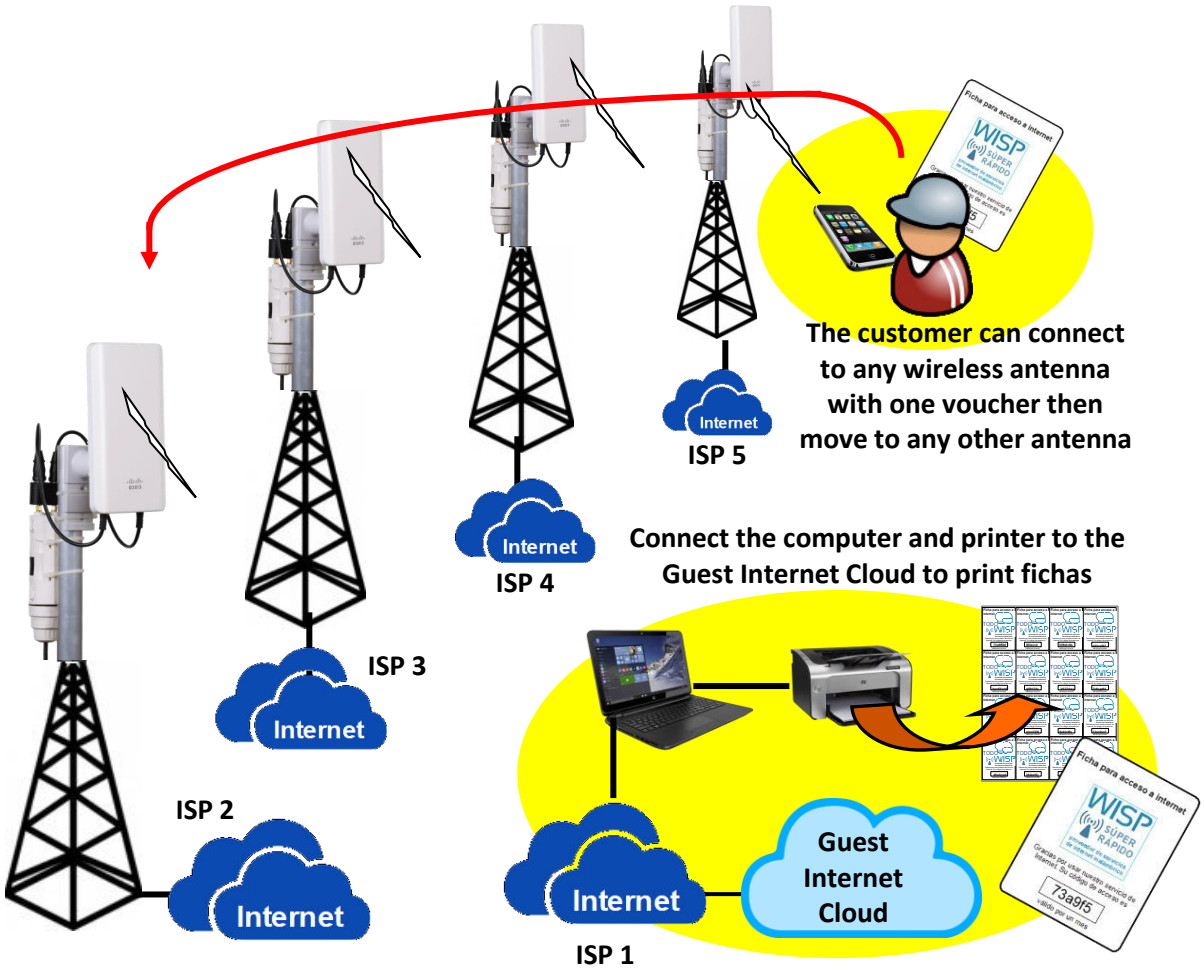


The Internet gateway firewall applies Internet access rules to all customers who connect to the service

- Duration of access: specified for each code
- Maximum download/upload speeds : specified for each code
- Maximum download/upload data: specified for each code

Provide mobile broadband with a cellular WiFi network

- A cellular WiFi network has roaming: move between antennas, stay connected to the Internet
  - The customer can buy a voucher at a retail point and login to any antenna assigned to the cloud group account.
  - The customer will remain logged in at all other WiFi antennas via Cloud managed handoff between antennas until the code expires
- This works just like a mobile phone network
  - Guest Internet Cloud management service transfers the customer from one wireless antenna to the next with automatic handoff

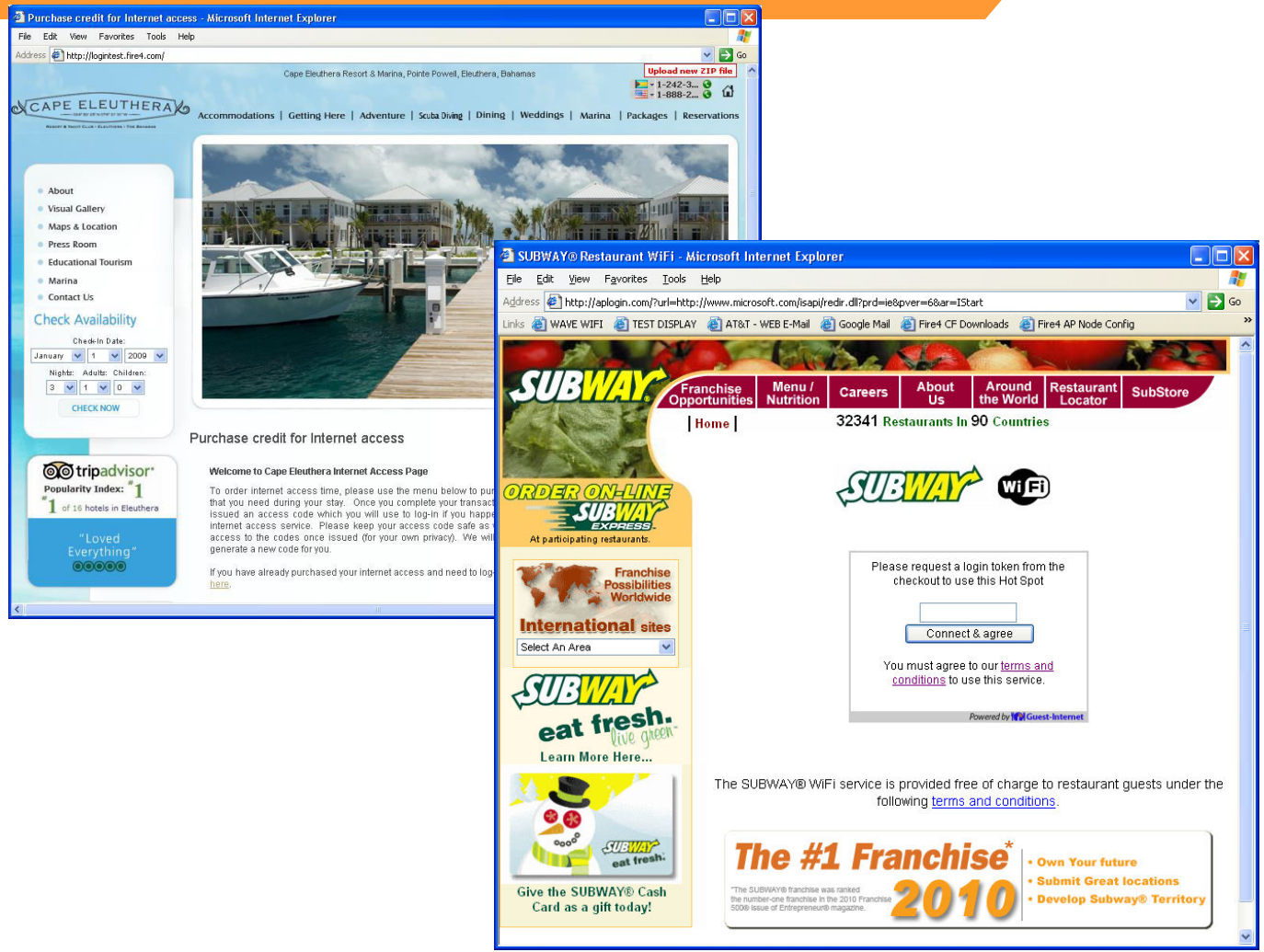


Desirable characteristics for a public Internet service

- Simple to install and use with intuitive GUI, easy to understand, no specialist skills required
- Works with any type of WiFi and network equipment
- User authentication, choose from several methods
- Monitoring of network access and use, supervise users, identify access attempts
- Firewall access control rules, block IP ranges, block routers, block DoS traffic, block access to specified websites, block access to website categories
- Equipment failure monitoring and alerting via email
- Multi-WAN with load balance and fail-over
- Port forwarding for remote device configuration
- Multi-segmented network with VLAN for user isolation and security
- Cloud service for remote configuration, support, monitoring and reporting

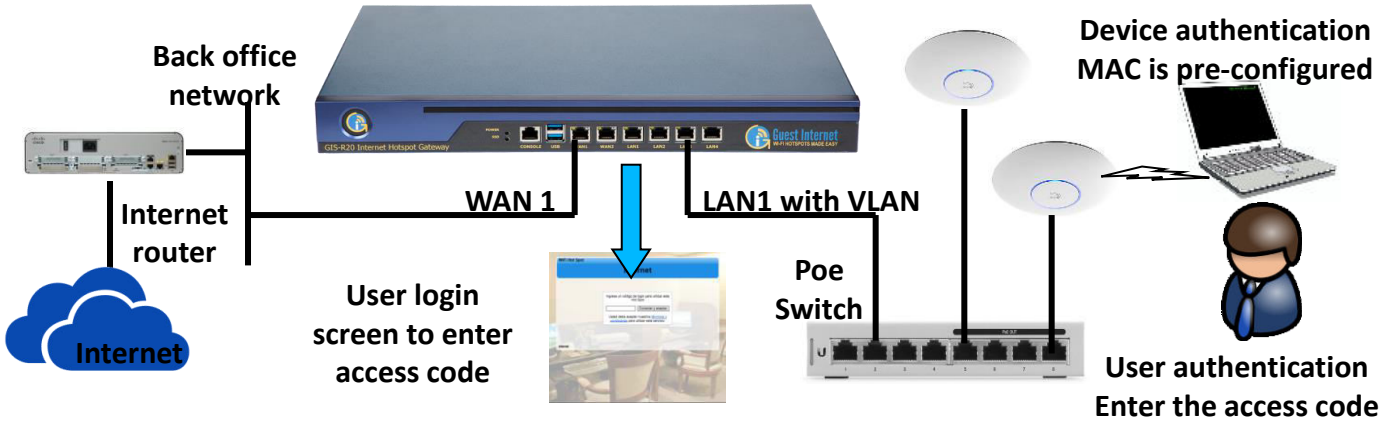
Application: Login page customization

- Many businesses want a customized login page for the Internet WiFi Hotspot service
  - Choose the product that has an easy method to create customized login pages
- Some products have three methods available to add a login page (captive portal page) for user authentication
  - Use a setup wizard, add text
  - Upload a background photo of the business
  - Code a custom page using HTML and javascript



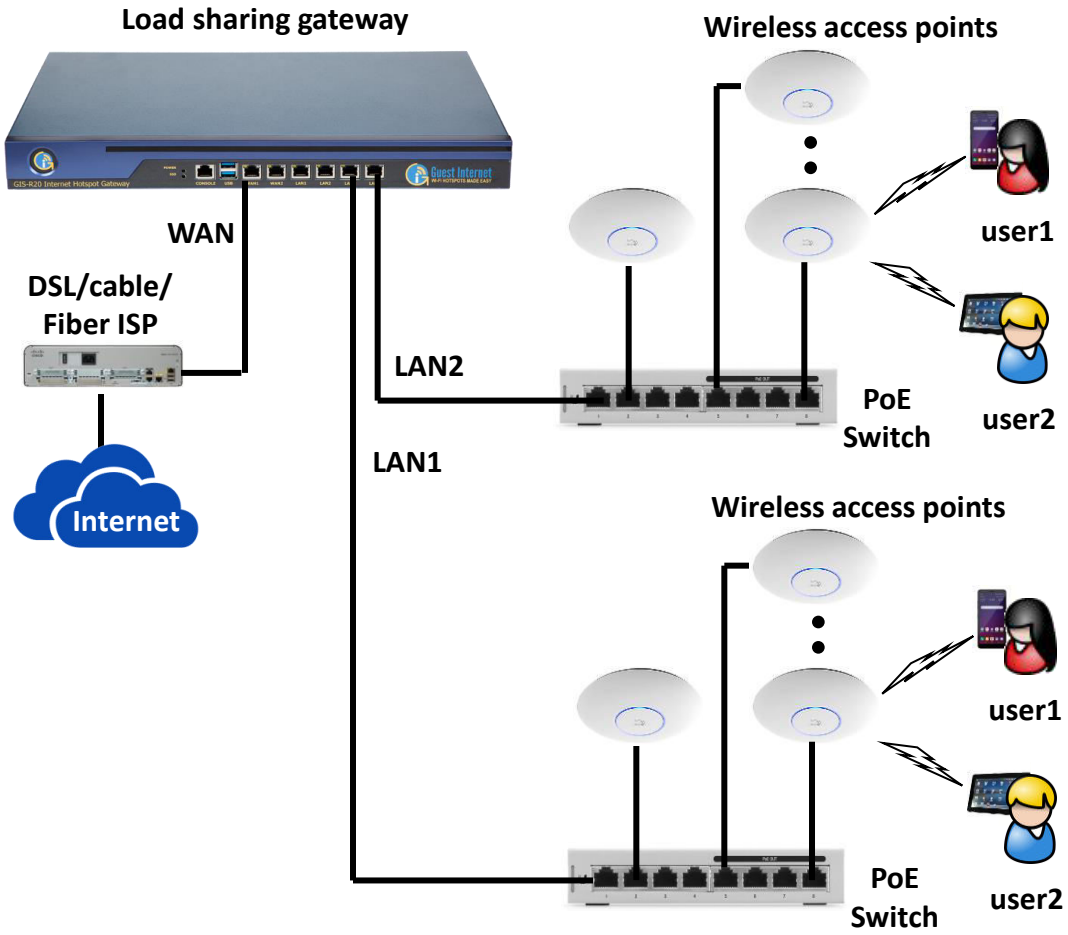
Application: User and device authentication methods

- There are several authentication methods for both devices and users to allow access to the Internet
- User authentication
  - Login page, agree to the terms and conditions
  - Login page, enter an access code supplied by the Hotspot owner
  - Login page, purchase an access code on-line using a credit card
  - Login page, provide specified contact information
  - Login page, select free access for a specified time, followed by a purchase on-line
- Device authentication
  - Add the device MAC to the allowed MAC list
  - Create an auto-login code using the device MAC address
- Free access mode
  - User access the Internet without authentication however all access rules apply, including maximum data speed and selective website blocking
  - This mode is suitable for condominium associations that provide Internet access



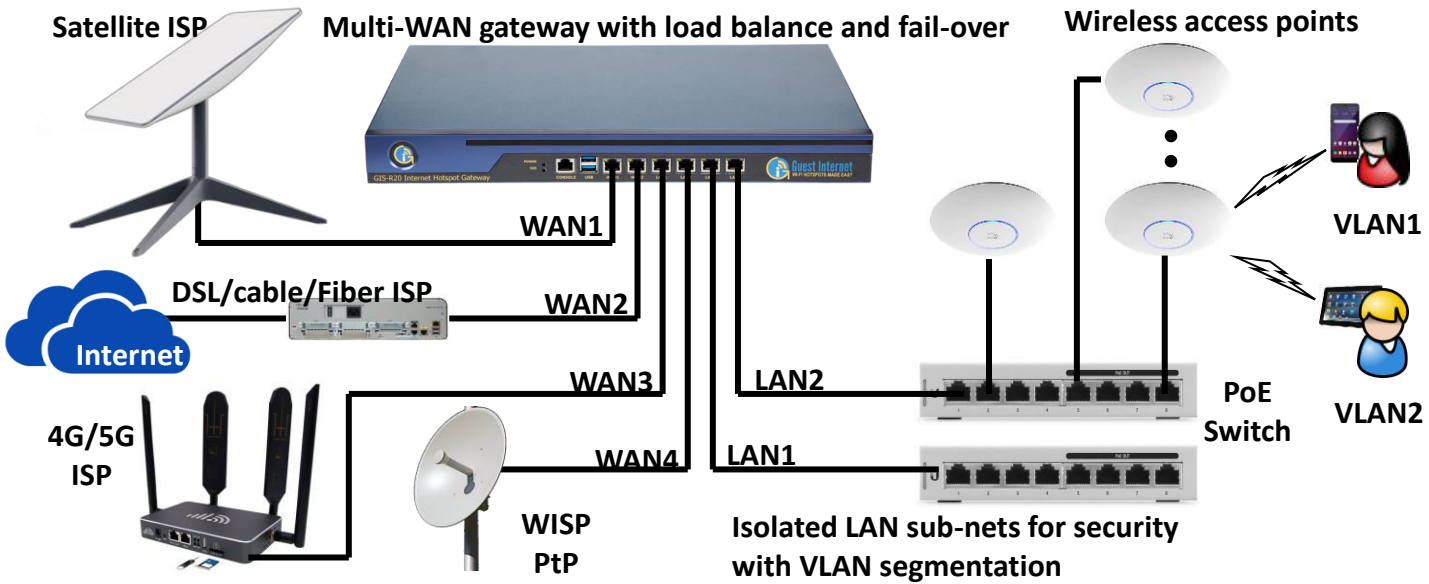
Application: Share one Internet connection between many users

- If many users are given full access to one Internet connection then network congestion will eventually occur
  - All users will loose the Internet connection
  - Network congestion can be prevented
- Bandwidth control sets a maximum speed limit for each user so that the Internet bandwidth is shared
  - There will be a user speed limit where the Internet becomes unusable
  - Recommended to allocate 2Mb/s per user, 50 users requires a 100Mb/s circuit
  - 500Kb/s per user can be set, performance is poor
- Abuse prevention is necessary
  - Block computers with viruses such as DoS
  - Set a data limit to restrict large file transfer
  - Set a time limit to reduce Internet use
  - Block access to high data rate websites, e.g. Netflix



Application: Internet redundancy is essential for public WiFi reliability

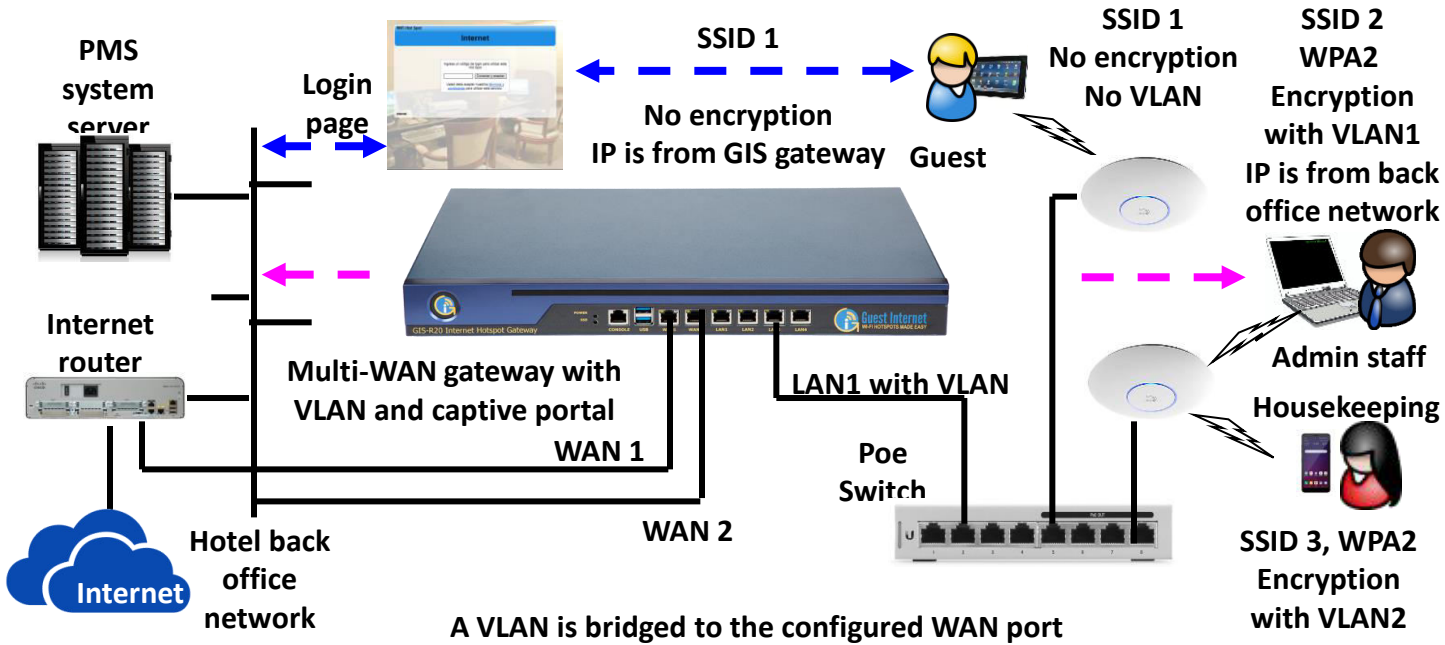
- Guest Internet products have both dual-WAN (GIS-R6/GIS-R10/GIS-R20) and quad-WAN (GIS-R40) configurations
  - Load balance permits the WAN circuits to be added to the total throughput
  - Fail-over means that when one WAN circuit fails customer connections are switched to the WAN circuit(s) that are operational
- Loss of Internet access can be a disaster for hospitality businesses as Guests need Internet access
- Some hotel chains require the franchise owner to connect the guest WiFi Internet service with dual WAN for reliability



Application: Dual use WiFi network with VLAN network segmentation

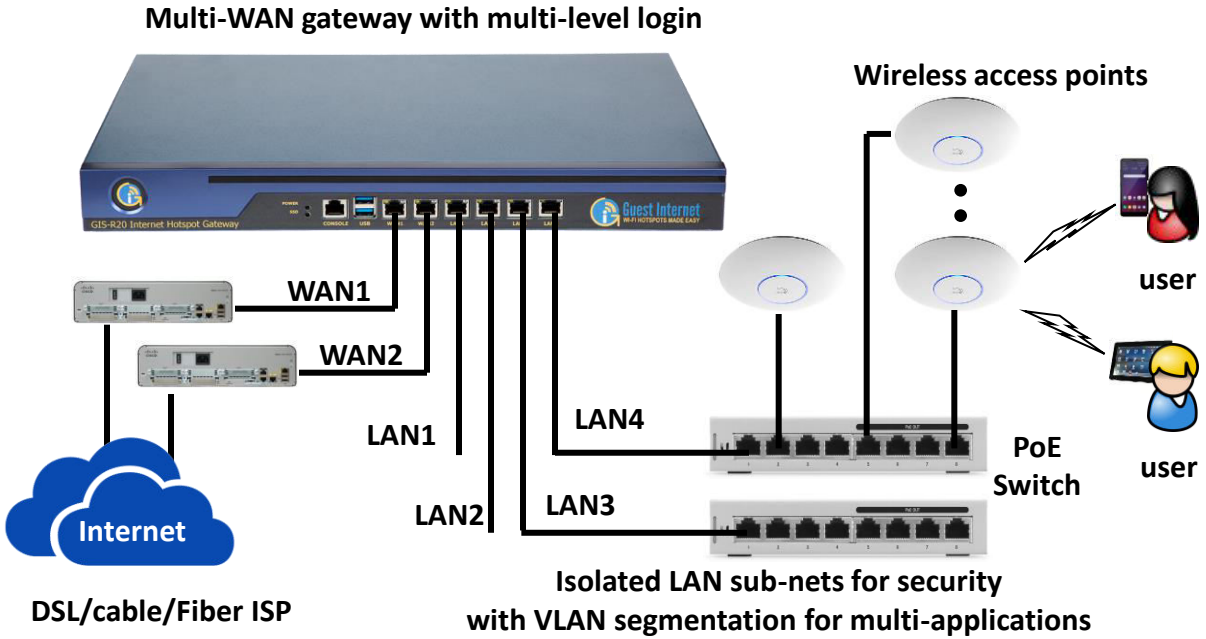
- Motels, hotels and resorts can save investment cost by configuring one WiFi network for use by both guests and staff with a Guest Internet dual-use configuration
  - Guests and staff are completely isolated using the Guest Internet VLAN configuration

- Access points have multiple SSID's with optional WPA2 encryption, and each SSID can be configured with a VLAN
  - Guests connect to an SSID without encryption and receive an IP address from the Guest Internet, and see the login page
  - Staff connect to an SSID with encryption and receive an IP address from the back office network router



Application: Multi-level login for airports and other applications

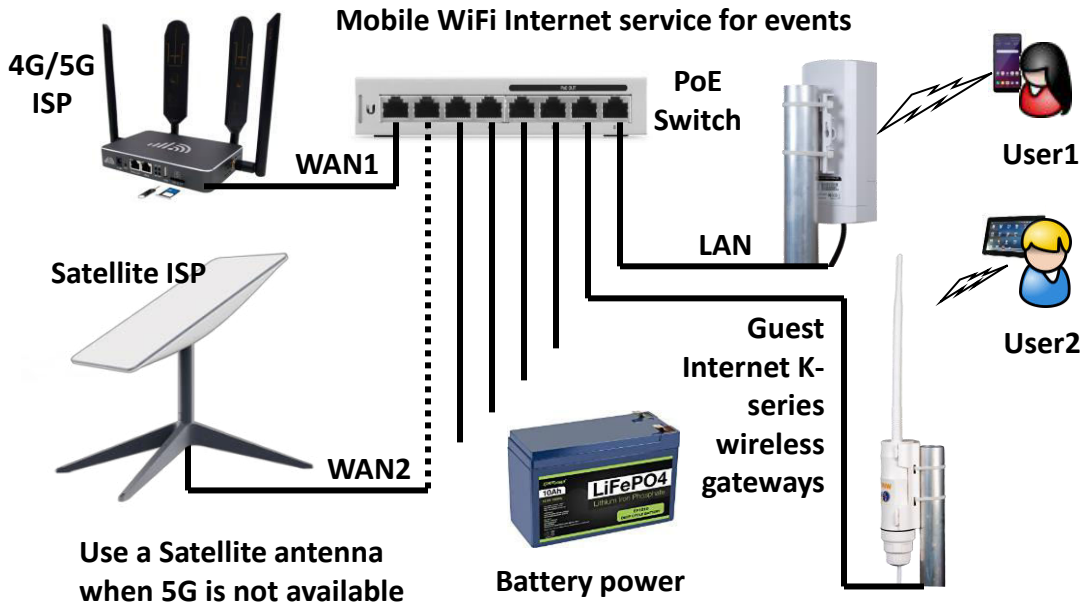
- Some entities such as airports and trade shows require a multi-level login offer
  - Permit a user to have 30 minutes (can be configured) of free Internet access within each 24 hour period
  - After the free Internet access period has been used the user can purchase Internet access in hourly or daily increments on-line using a credit card
  - A user who has a subscription with a service such as Boingo can login with the subscription credential (Boingo API)
- The free service is configured with additional characteristics
  - Set the maximum download and upload speed, usually a slow data speed for the free service
  - Block access to websites that require a high data bandwidth, e.g. Netflix
- The paid service can have additional characteristics
  - The service offer can include speed options, faster speed costs more



Application: Mobile WiFi Internet for temporary events

- Event organizers need Internet access and can use the 5G network as a backhaul with a high gain antenna that will connect at a much greater distance than a mobile phone
  - Temporary WiFi is necessary for events that are held at a remote outdoor area
  - Temporary WiFi is essential when the event has to provide the Internet service for many participants
  - Temporary WiFi is a backup plan when the organizers are not sure about Internet availability

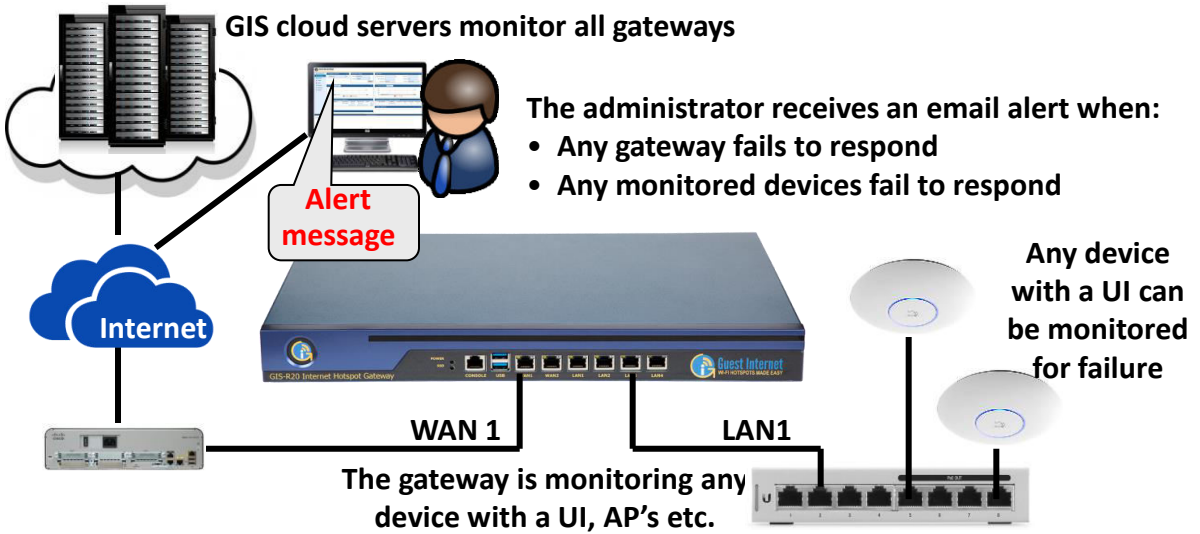
    - Auto shows
    - Outdoor music concerts
    - Sports arena events
    - 5K run events
    - Public parks
    - Outdoor theater
    - Outdoor fashion presentation
    - Beach community barbecue
    - Boating event
    - Cycling race



Application: Monitoring network devices for failure with alerting

- The Internet gateway can monitor any LAN device that has a UI IP address
  - On any device failure a message is sent to the admin via the
- The cloud can monitor all gateways assigned to the account for failure
  - On any failure the cloud will alert the admin

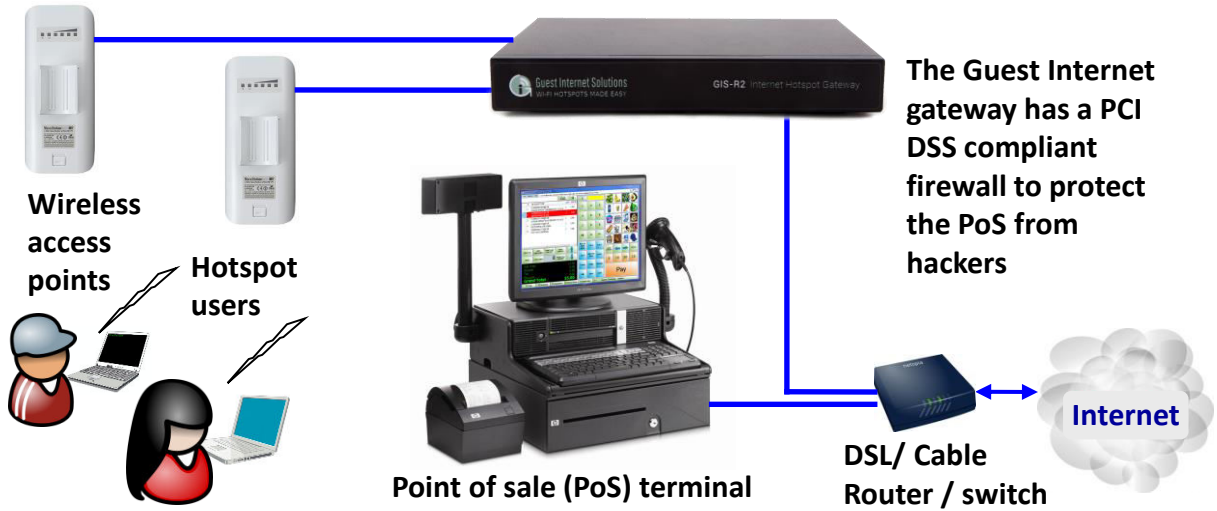
- The network device monitoring feature will monitor the reliability of the public Internet service
- Any failure will be alerted and can be quickly repaired



Application: The guest WiFi must protect the PoS with a PCI compliant firewall

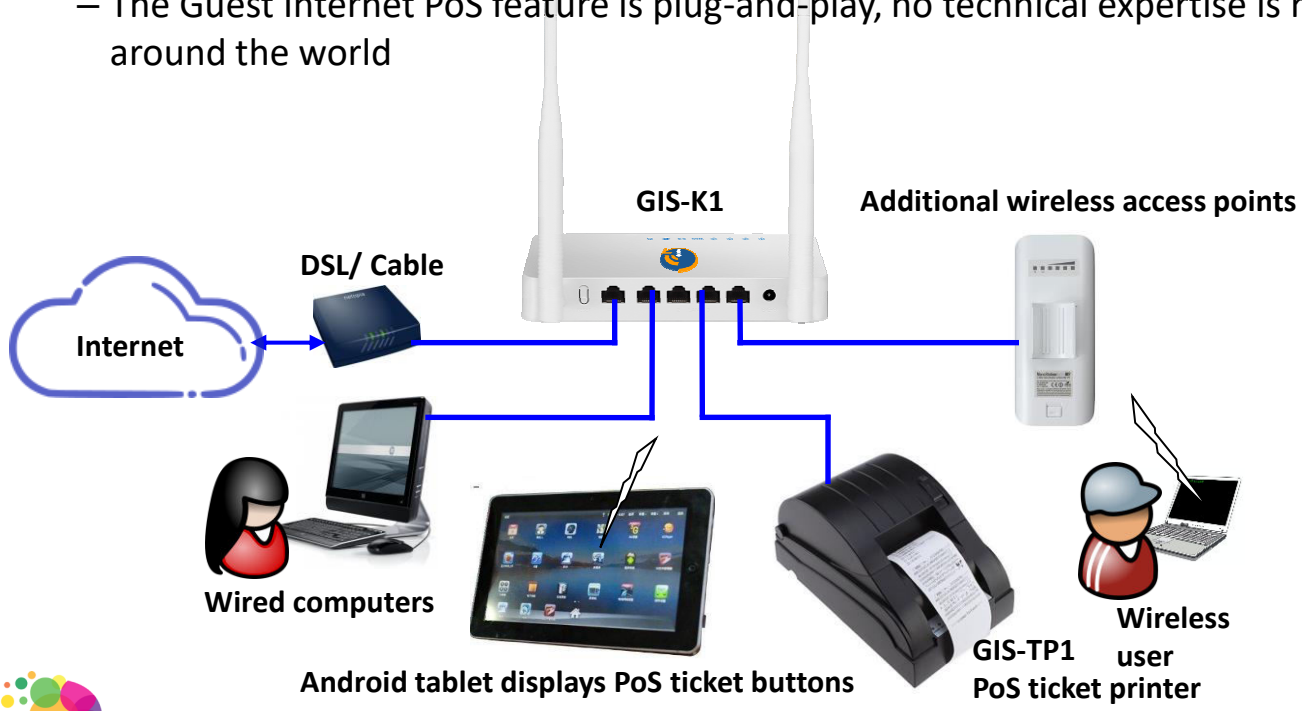
- A hacker can access the credit card information stored on the PoS via the guest WiFi
- The Payment Card Industry Data Security Standard (PCI DSS) requires any business that holds credit card information on a point of sale (PoS) terminal to implement one of the following for guest WiFi;
  - Use an independent ISP connection for the WiFi Hotspot
  - Or…
  - Install a PCI compliant firewall for the WiFi Hotspot if using the same ISP connection as the PoS

- If the gateway does not have a PCI DSS compliant firewall to protect credit card data stored on PoS systems from hackers who have access to the public WiFi Hotspot then a firewall must be installed



Application: Internet Café Point-of-Sale (PoS) system

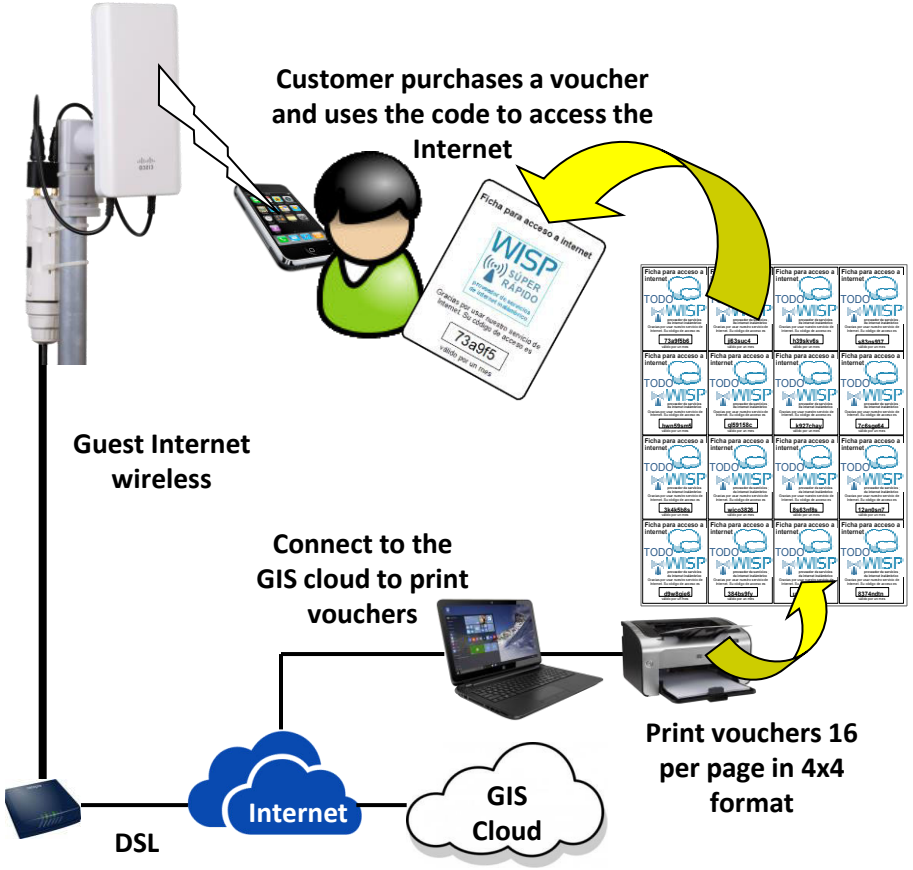
- Some gateway products include complete software to implement an Internet Café point of sale system
  - A receipt printer prints a receipt with access code for each sale, and has a connection for an optional cash drawer
  - The Guest Internet PoS feature is plug-and-play, no technical expertise is required, the cyber-cafés product is popular around the world



An Internet cafes in Latin America

Application: Selling Internet access with vouchers

- Use gateway software for the design and printing of vouchers that have access codes for sale to mobile Internet users
  - The vouchers are printed in a 4x4 format using any letter size printer
- Each voucher code has the following characteristics
  - The code includes the duration, maximum download/upload speed, maximum data use
  - The customer can connect to any cloud managed antenna with the voucher code
  - The customer stays connected when moving to different antennas
  - The customer is only disconnected when the access code expires



Public Internet applications: business Hotspot vs. managed WiFi service

Business Hotspot

- Many businesses provide WiFi Internet for guests and visitors, with the following characteristics
  - Open access point that anyone can connect to
  - A customized login page to identify the business
  - Issue access codes to control the Internet login
  - Charge for use of the Internet service
- Three popular products have these features
  - **Guest Internet**: no technical expertise required
  - **Ubiquiti Unifi**: requires technical expertise
  - **Mikrotik router**: requires technical expertise plus router programming skills
- All three brands start in the price range of <$100

Managed WiFi

- Large business must provide a WiFi Internet service for guests and visitors so they install managed WiFi products
  - Cloud management, IT dept remote configuration
  - Remote vendor support when needed
  - API for integration with software platforms
  - Reliability monitoring, failure alerting
  - Multi-WAN for user service reliability
- Three popular products with these features
  - **Guest Internet:** all the functions a solution needs
  - **Nomadix:** expensive but comprehensive
  - **RgNets:** limited functionality, Rukus partner
- These brands are in the $1000 to $5000+ range

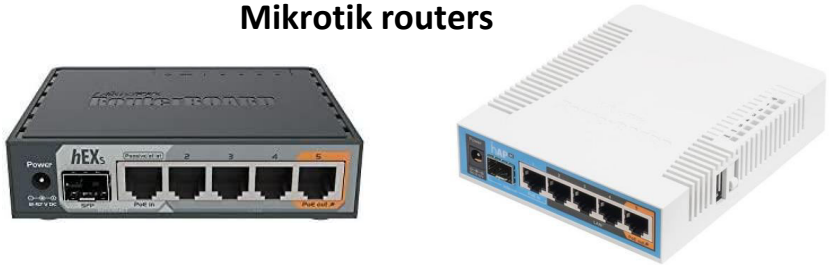
Popular Internet gateway products for small business hotspots

- **Guest Internet**
  - Easy to install and use, no special knowledge required
  - Many more Hotspot features than competitors
  - Wide product range for every application
  - Economic to install and operates reliably
  - Free cloud, free support, free upgrades, free manual
- **Ubiquiti Unifi**
  - Requires training to install and configure
  - Limited features, login page, codes, hard to change
  - All Unifi products have the Hotspot feature
  - Remote access, free upgrades, no cloud, no support, no manual
  - Short product lifetime
- **Mikrotik**
  - Requires high level of technical knowledge to program
  - Hotspot is a 3rd party free script, call programmer for any changes
  - Very limited features, login page, codes
  - No cloud, no upgrades, no support, no manual
  - Vendors sells, supports configured units, user cannot configure

Guest Internet

Ubiquiti Unifi

Mikrotik routers



Small business Internet Hotspots: **comparing Guest Internet, Ubiquiti Unifi and Mikrotik**

HOTSPOT FEATURE COMPARISON	Guest Internet	Ubiqiti Unifi	Mikrotik
Works out of the box?	Yes, easy setup wizard	Needs configuration	Needs scripts installing/ configuring
Technical skills required?	No	Medium networking skill	High level skill, network, program
Configuration change?	Customer can do	Pay IT support cost	Pay programmer, higher cost
Starting cost, product + service?	<$100, end-user installs, no cost	<$100 + $configuration charge	<$100 + $program + $configuration
Scalability?	Single to multi-site, 100K + users	One site, <100 users	One site, <100 users
Cloud management?	Free, 1 or multiple products, groups	Remote access to software	No
Customizable login page?	Three simple methods, 2 no program	Requires programming skills	Requires programming skills
Firmware upgrades?	Free, user installed, product lifetime	Free while manufactured	No upgrades
Help with problems?	Free online support from engineers	User group or pay IT provider	User group or pay programmer
Integration with other systems?	Yes, free device API and cloud API	No	No
User manual available?	Yes, 200+ pages	No	No
Login codes available?	400+ options	One format only	One format only
On-line payment for Internet?	Easy PayPal gateway for CC charge	CC charging is difficult to use	No
Installers time required?	Short install time, install more sites	Medium install time, charge more	Install + programming, charge more
Compatibility with network products?	Works with any product	Wireless only with Unifi products	Works with any product
Product options?	10 models wireless to large gateway	Wireless only	Small and medium routers
Large network features?	City cellular WiFi WAN with roaming	One LAN network only	One LAN network only
Performance?	Fast, C coding, multi-core CPU's	Very slow Java configure utility	Slow, scripted router, limited speed
Throughput?	Up to 1Gb/s, 10Gb/s special order	300Mb/s	<100Mb/s to 500Mb/s
Applications?	From bar to international airport	Coffee bar, small motel	Coffee bar, small motel
Failure monitoring?	Network and gateway with alert	No	No
Can end user install?	Yes	No, installer required	No, installer required
Data traffic statistics available?	From units and also cloud groups	From units	No
Email server to send messages?	Failure alert, CC billing, daily stats	No	No
Firewall to protect the business?	PCI DSS compliant, DoS and Torrent	No	No
TCO (total cost of ownership)	Product cost only, 10+ year life	Product cost + services, short life	Product cost + install + program

Internet gateway products for large projects & for systems integrators

- **Guest Internet**
  - Good value for money
  - More features than the competition
  - Free cloud service, free support
  - Popular with international resorts, Fiji, Maldives, etc
  - Popular with national and international airports
  - Long product life, 10+ years, backward compatible
  - API integration with PMS systems, Oracle Opera, etc.
  - Variety of applications, resorts, airports, trade shows, etc.
- **Nomadix**
  - High purchase cost
  - Compulsory annual maintenance contract
  - Product life is 3 years, then support is terminated
  - Hospitality only, contract with Hilton and Marriott corporate
  - API integration with PMS systems, Oracle Opera, etc.
- **RgNets**
  - Price not published, pay for support
  - Partner with CommScope Rukus for hotel installations

Guest Internet

Nomadix

rgNets

Guest Internet product range

	WIRELESS				BUSINESS			PRO			
FEATURE	GIS-K1	GIS-K3	GIS-K5	GIS-K7	GIS-R2	GIS-R4	GIS-R6	GIS-R10	GIS-R20	GIS-R40	GIS-TP1
Hotspot custom login, 6 login procedures	●	●	●	●	●	●	●	●	●	●	
Content filter (block access to Websites)	●	●	●	●	●	●	●	●	●	●	
PayPal® & Credit Card Billing	●	●	●	●		●	●	●	●	●	
PCI DSS compliant firewall (PoS protection)	●	●	●	●	●	●	●	●	●	●	
2 Wan fail-over							●	●	●		
4 WAN fail-over										●	
LAN ports	4	1	1	0	4	4	3	4	4	2	1
Wireless access point 11/N, 300Mb/s	●	●	●	●							
Ethernet speed	10/100	10/100	10/100	10/100	Gb	Gb	Gb	Gb	Gb	Gb	10/100
FREE Cloud management	●	●	●	●	●	●	●	●	●	●	
Ticket printer and 4x4 voucher printing	●	●	●	●	●	●	●	●	●	●	●
Limit of Concurrent Users	no	no	no	no	no	no	no	no	no	no	
Throughput	75Mb/s	100Mb/s	100Mb/s	100Mb/s	100Mb/s	150Mb/s	200Mb/s	400Mb/s	600Mb/s	1000Mb/s	

Summary of Guest Internet benefits for customers

Ease of use, flexibility

- Fast to install, easy to configure
- No limit to the number of users
- Easy for users so reduces customer service
- Easy to customize with login page options
- Diaplay business information during login
- Provide a free, charged or partial free/ charged Internet service
- Dual use WiFi with VLAN configuration
- Throughputs up to 1Gb/s, up to 10Gb/s with special order
- Build cellular WiFi networks with roaming
- Free cloud service for remote management
- Free lifetime software upgrades
- Free online technical support

Protection and control

- Firewall protects the business from hackers
- Blocking of computers with DoS virus
- Prevent sharing of copyright files
- Set maximum data speed to share bandwidth
- Optionally set maximum data limit
- Filter websites, individual or categories
- Failure monitoring of AP's and of GIS products with admin alerting
- Login methods
  - Agree to the terms and conditions
  - Request an access code
  - Request user information to log
  - Free access with firewall rules
  - On-line credit card charge with billing report

Internet Technology Answers Inc. has the answers to your questions

Internet service consulting services

- Mobile broadband technology deployment for public Internet
- Management of Internet services for mobile devices
- Fixed broadband technology: ISP/WISP/fiber subscriber management
- Fixed wireless access (FWA) technology deployment and management

Cybersecurity consulting services

- Business infrastructure cybersecurity risk assessment
- Review current cybersecurity policies; draft new policies
- Evaluation of cybersecurity technology controls
- Preparation of a cybersecurity technology transition plan
- Analysis of risk management and recovery procedures
- Preparation of a cyber-attack recovery plan
- Employee training for awareness of cybersecurity best practices
- Compliance with PCI DSS and the HIPAA security rule

Internet Technology Answers Inc.

www.InternetTechnologyInc.com

Thank you for your participation

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  Info@InternetTechnologyInc.com **786-358-5407**

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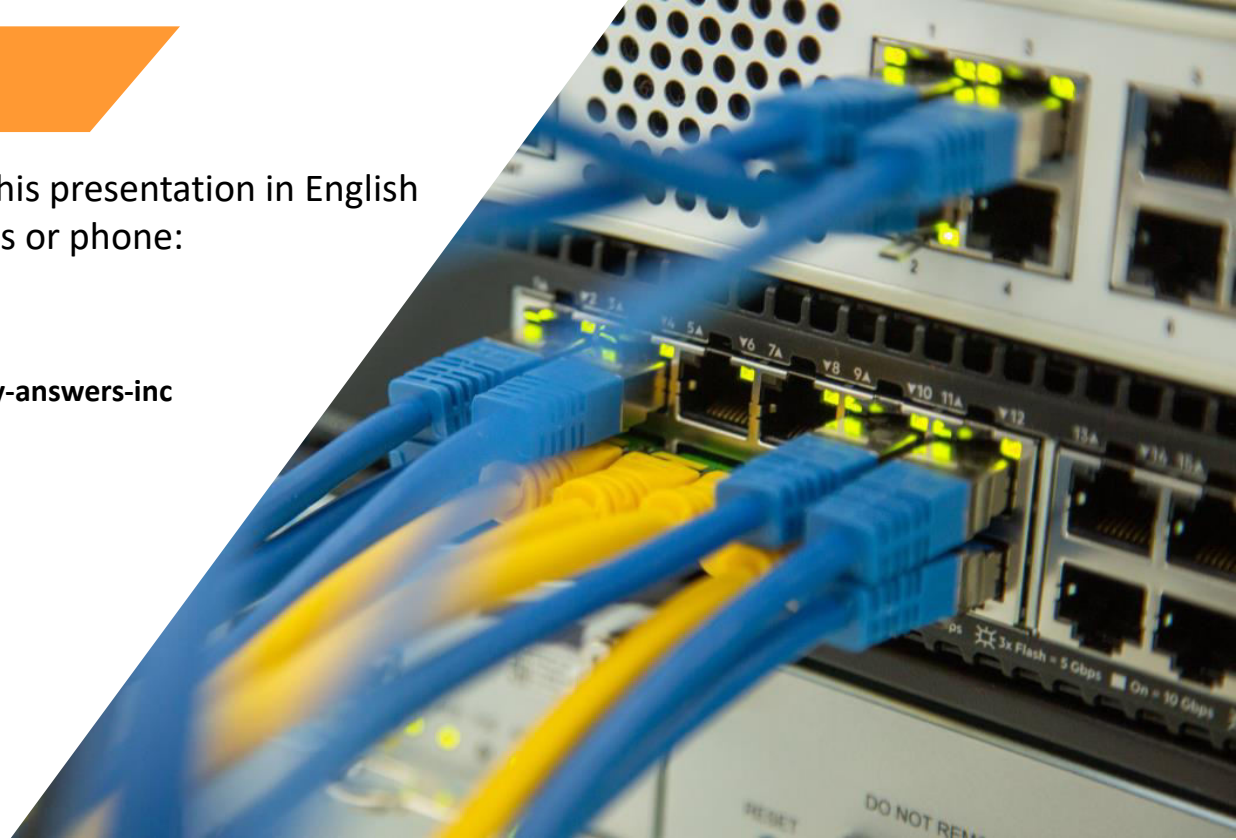

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