

## Introduction

T-wisp is a modular and scalable revenue management platform which encompasses real time billing, customer care, provisioning, payment, and authentication. The platform suits providers looking to extend their offerings into next generation services and new entrants looking for rapid and scalable implementation of convergence services. T-wisp supports multi-service prepaid, broadband internet access, public WLAN, and content charging. The platform can serve as end-to-end real time billing & customer care system, or it can deployed as an adjunct to a legacy billing and CRM system, enabling next generation and value added services with minimal impact on core IT systems.

T-wisp is based on OpenSource technologies, such as FreeRadius authentication server, PHP programming language, MySQL database engine. All these are stable and mature, provided with advanced technical support, which makes them production-ready to almost any business environment.

Our portal matches entirely all the requirements of the Wireless ISP business model, and is compatible with all our other products – CRM, LiveHelp, ERP, and so on.

Network Access Servers (NAS) able to authenticate via PAP and CHAP encrypted RADIUS.

Accounting stats recordable and searchable.

 Extended RADIUS attributes assignable including bandwidth control, time online and other WISPR specified attributes.

Supported NAS s include Chillispot/DD-WRT, InterEpoch, Colubris and NeoMeridian.

Authentication of NAS by IP, MAC or DynDNS plus a shared RADIUS secret.

Automated reports specifying Affiliate, Venue, Venue commission, Agent Commission, and a breakdown of the card types sold sent to the Administrator at a selectable period.

NAS specific customisable login page for users to authenticate through

 Affiliate structure so different Hotspots (NAS) can sell different types and values of voucher in different currency denominations. The Affiliate has an assignable commission.

Random username/password generator

Prepaid card voucher system for assignable Affiliate, Venue, time periods, values, currencies, MB limit and Kbps. Online Vouchers for each affiliate are self-replenishing so that a venue will never run out of vouchers.

Administrators specify which products are available from the portal belonging to a specific Venue/ Affiliate. E.g. Park Inn Hotel is able to sell £5 per hour Voucher, £10 per Day Voucher and £30 a Week Voucher, while Osterley Park Hotel is able to sell £2.50 per Hour, £5 a Day and £15 a Week.

 Subscriptions system with support for MAC address as a username and password where the authenticating device is a WiFi phone.

 Universal subscription to all Venues so that users with a subscription to the service are able to use all the hotspots.



 Automated Off line prepaid card creation (with unique usernames and passwords) into an automatically e-mailed PDF sheet.

Card layout and content, including image is customisable through the GUI. The venue GUI that the venue can use to automatically generate more prepaid vouchers, which are immediately e-mailed to them upon successful processing of their credit card.

- Portal Pages are NAS specific
- Scalable (for different payment gateways). Real-time SSL encrypted Multi-Currency Card processing.
- Refunds reflected in the reporting and statistics.
- E-mailed invoices
  - SMS payment facility
    - Search of RADIUS database and accounting and contact information.



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Automated Affiliate/Agent revenue statistics are e-mailed to the Agent or Affiliate at the end of each month.

Billing information is automatically exportable into QuickBooks Accounting package.

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Tiered Management system with different user privileges

- Super Administrators are able to assign different levels of accessibility to different people. Super Administrators have access to all areas.
- Affiliate/Region Administrator –have access to all reporting and admin areas in the regional grouping.
- Affiliate Technical Support All areas other than accounting areas in Regional/Affiliate group.
- Venue Management/POS Only able to order new prepaid vouchers and view venue statistics
- Agent Interface This level is for salespeople to check on their sales commissions.

Total search feature where a Tech support engineer can enter any value (e.g. username, Surname, e-mail address, Venue) and find all records of that value. These records are editable by authorised operators.

 Roaming functionality available to integrate roaming with other Hotspot companies like Boingo, The Cloud etc.

Monitoring feature to show active Hotspots, with location and contact details for each venue. Stats should include number of users, username, password of each user and the ability to disconnect users (via extended RADIUS attributes).

- NAS Access Feature to click on Active Hotspot and access the web management of that Hotspot.
- Virtual Server Mapping feature access web admin of Access Points and other devices on the inside of the NAS network
- Monitoring sends an e-mail or SMS to more than one specified mobile number based upon certain criteria including Hotspot going down for a specified period of time. We currently use NetworkView monitoring software which could be adapted.
  - Sort-able graphs and lists of real-time user stats, so an operator can supervise the network.
- Real-time backup facility that immediately backs up any database changes to a second mirror server running in a different geographical location. This server is available to service any RADIUS/ Billing requests in case the first one goes down for any reason.

