

S04 - SIMPLer Operations Operators General Manual

Azotel Technologies Ltd,
3rd Floor, River House,
Blackpool Park,
Cork,
Republic of Ireland.

Azotel Canada Inc.
325 Vulcan Avenue
NS B1P 5X1
Sydney
Canada

Azotel Poland
PLAC Powstancow
Slaskich 17A/222
53-329
Wroclaw
Poland

Phone (EMEA): +353-21-234-8100
Phone (North America): +1-312-239-0680 / +1-902-539-2665
Phone (Poland): +48-71-710-1530
Phone (UK): +44-20-719-3417
Phone (South Africa): +27-11-083-6900
Fax: +353-21-467-1699
info@azotel.com

Contents

Contents	2
1 Introduction	6
2 SIMPLer solution overview	7
2.1 Introduction	7
2.2 Architecture	7
2.2.1 WIB-Client / HIB-Client (WIB-C / HIB-C)	8
2.2.2 SIMPLer	11
2.3 Web Front-end Functionality overview:	11
3 Setting up operator environment	13
3.1 Introduction	13
3.2 SIMPLer Operator general information	13
3.3 SIMPLer User management	38
3.3.1 Adding user	41
3.3.2 Delete user	42
3.3.3 Modifying user	44
4 Network Management	47
4.1 Introduction	47
4.2 Managing Gateway details	47
4.2.1 Adding gateway	51
4.2.2 Deleting gateway	53
4.2.3 Modifying gateway	54
4.2.4 Gateway traffic shaping buckets	56
4.2.4.1 Adding traffic shaping bucket	60
4.2.4.2 Modifying traffic shaping bucket	60
4.2.4.3 Deleting traffic shaping bucket	61
4.2.4.4 General Guidelines for Traffic Shaping Buckets	61
4.2.4.5 Network Scan: Ability to Exclude Equipment From Scan	62
4.2.4.6 Reboot WIB-C From SIMPLer	62
4.2.4.7 Usage/Overage Report	65
4.2.4.8 Reset Usage for Specified Time	65
4.3 Interfaces	67
4.3.1 Adding a new interface	68
4.3.2 Deleting interface	68
4.3.3 Modifying interface	69
4.4 Site Details	70
4.4.1 Adding site details	70
4.4.2 Deleting site details	72
4.4.3 Modifying site details	72
4.5 Equipment details	74
4.5.1 Adding equipment	75
4.5.2 Deleting equipment	76
4.5.3 Modifying equipment	76
4.6 Base Stations	78
4.6.1 Adding Base Station	79
4.6.2 Delete Base Station	80
4.6.3 Modifying Base Station	80
4.6.4 Clear CPE Colours Not Assignend to Basestation	81
4.7 Peer-to-Peer (P2P) handling	83
4.7.1 Background	83
4.7. P2P handling on the WIB-C	83
5 Customers	85
5.1 Introduction	85
5.2 Adding new customers	97
5.3 Searching for the customer(s)	99

5.3.1	Search for a specific customer	99
5.3.2	Search for customer groups.....	100
5.4	Customer details page	100
5.5	Modifying user	103
5.6	Customer Spreadsheets	105
5.7	Changing customer monitoring/invoicing/marketing emails status.....	106
5.8	Maintenance	106
5.8.1	Adding maintenance task	108
5.8.2	Deleting maintenance task	110
5.8.3	Modifying maintenance task	110
5.8.4	Installer Notification Email.....	112
5.8.5	Installer Tracking Feature (ITF).....	114
5.8.5.1	Installers	114
5.8.5.2	Installation Jobs.....	115
5.8.5.3	Installer Tracking Reports.....	118
5.8.5.4	Notifications.....	119
5.8.5.5	Customer Subscription – Sort Priority	119
5.8.5.6	Customer Spreadsheet Download for Search Results.....	119
5.8.6	Example Ticketing Workflow	121
5.9	Billing issues	122
5.9.1	Adding billing issue	125
5.9.2	Deleting billing issue.....	125
5.9.3	Clearing/modifying billing issue.....	126
5.9.4	Billing issues Email.....	126
5.10	Mass Email Notification	127
5.11	Delete customer account	129
5.12	Customer Email Integration	130
5.13	Customer Custom Tables	133
5.14	Dynamic Valaues for Mass Mail	135
6	Customer related actions	138
6.1	Introduction	138
6.2	Site Survey/Installation procedure	138
6.2.1	Site Survey	138
6.2.2	Installation.....	138
6.3	Provisioning and activating a connection	139
6.3.1	Auto provisioning & activation.....	139
6.3.2	Manual provisioning & activation	140
7	Network statistics & health monitoring	142
7.1	Introduction	142
7.2	Network health monitoring	142
7.3	The monthly revenue.....	143
7.4	Active Subscribers	144
7.5	Average revenue.....	145
7.6	Home/business customers	146
7.7	Referral fee status.....	146
7.8	Customer traffic graphs.....	147
7.9	Gateway graphs.....	148
7.10	List of active customers	149
7.11	Analyse Gateway Traffic	150
7.11.1	Background	150
7.11.2	Tool Usage and Output	150
7.11.2.1	Totals.....	151
7.11.2.1	TCP Age Analysis.....	152
7.11.2.3	TCP Traffic Analysis	152
7.11.2.4	UDP Traffic Analysis.....	153
7.11.2.5	TOTAL TCP connections for all Ips.....	153
7.11.3	Hints and Tips	153
7.12	Analyse Gateway P2P Traffic.....	154
7.12.1	Background	154
7.12.2	Tool Usage and Output	154

7.13	Tcpdump	154
7.13.1	Background	154
7.13.2	Access	155
7.13.3	Tool Usage	157
7.13.4	Warnings	158
8	Features	159
8.1	Dual Gateway support.....	159
8.1.1	Overview	159
8.1.1.1	Configuration – WIB-C.....	159
8.1.1.2	Configuration – SIMPLer	159
8.2	Customer Email Accounts.....	159
8.2.1	Requirements.....	160
8.2.2	Overview	160
8.2.3	Create Account.....	161
8.2.4	Modify Account	162
8.2.5	Delete Account.....	162
8.2.6	Account Status	162
8.2.7	Default Domain.....	163
8.3	WIB groups - MultiHome support	163
8.3.1	Overview	163
8.3.2	WIB Groups	164
8.3.3	Configuration	164
8.3.4	Summary	165
8.4	Customer groups	165
8.4.1	Overview	165
8.4.2	Customer Groups	165
8.4.3	Customer Page	166
8.4.4	Customer Search	167
8.5	Change History.....	168
8.5.1	Overview	168
8.5.2	Accessing Change History Details.....	168
8.5.3	Browse Change History	169
8.6	Refer-a-Friend	169
8.6.1	Overview	169
8.6.2	Feature Setup.....	170
8.6.3	User Settings	170
8.6.4	Refer-a-Friend summary page.....	172
8.6.5	Adding a New Referral	172
8.6.6	Customer Benefits - Free Service	172
8.6.7	GPS Update Tool	175
8.6.8	Open Maintenance Tickets.....	176
8.6.9	Manage Maintenance	178
8.6.10	Customer Tracking Colour.....	179
Annex A:	References	181
A.1	Document References	181
A.2	Link References.....	181
Annex B:	Definitions and abbreviations	181
B.1	Definitions	181
B.2	Abbreviations	181
Annex C:	Connection Tracking.....	182
C.1	Overview	182
C.2	TCP Connection Limit	182
Annex D:	Customer Import Spreadsheet.....	183
D.1	Overview	183
D.2	Fields Requested for Customer Information.....	184
D.3	Customer IP Details	185
D.4	Products.....	186
D.5	Subscriptions	186

D.6 Equipment	187
D.7 CPE 187	
D.8 Credit Card.....	187
D.9 Site 188	
D.10 Base Station.....	188
Annex E: Change history	189

1 Introduction

The purpose of this document is to provide detailed instructions on how to use the Azotel SIMPLer system. Included are a number of examples, tables and figures to assist in understanding. The Azotel SIMPLer system was built based on the requirements gathered while building a WISP and is currently in use by Operators in Ireland, Europe, Africa and North America.

2 SIMPLer solution overview

2.1 Introduction

Azotel SIMPLer is a platform enabling delivery of broadband. As its origins were based on building and deploying the Amocom network using Motorola equipment for the Radio Access Network, SIMPLer has full support for the Canopy range of products. However, the radio interface is modular by design, so it can provide support for any IP-based Radio Access Network including WiFi and WiMAX and auto provisioning support for Canopy, Ubiquiti and Mikrotik networks.

The Azotel SIMPLer platform offers wireless broadband operators a one-stop outsourcing service and Core Network for all their customer and network support system needs, from customer provisioning through billing, and network monitoring through advanced technical support. The service significantly reduces the time-to-market and upfront investment requirement for operators.

The software to provide these services is already developed. It is successfully deployed in a number of operations located around the world. Outside DSL/cable-modem footprints, wireless broadband has significant technology and/or cost advantages over competing technologies, including 3G and satellite delivery, which will ensure its future as a significant player in broadband distribution.

2.2 Architecture

The design architecture for Azotel SIMPLer is client-server. This design ensures good scalability and flexibility. The Server handles all CPU and storage intensive tasks connected with deploying, billing and managing networks. The clients are responsible strictly for processing network traffic.

1. Core Network – WIB-Client [WIB-C] / HIB-Client [HIB-C]

This single solid-state hardware device runs the Azotel client software which performs all core network functions for the operator. Developed to replace the traditional rack of equipment it performs advanced routing, traffic shaping / bandwidth management, subscriber authentication etc. Functionality and position in operators network of WIB Client is exactly the same as that of a Gateway or Router. The WIB-C, is a device which is in the middle, handling all the traffic flowing through that segment of the Operators network. One interface is connected to the internet feed and the second to the operator network (e.g. Radio Access Network). One point worth noting is that the WIB-C doesn't need a server to operate. The Server is used for pushing out the WIB-Client configuration. This approach guarantees no downtime of WIB-C's during problems with connectivity to the NOC (SIMPLer) Server. Everything will continue to work as normal from the end-customer perspective.

2. Network Operations Centre (NOC) – Server (SIMPLer Server)

The server at the NOC (or SIMPLer Server) contains a web-based system which facilitates the management of all the WISP operations from adding and provisioning subscribers to reporting usage. One of the facilities is a dash board web page, which pulls together a real-time view of critical network information such as failures etc. The result is a very flexible Network Operation Centre. Additional functions are included for a billing & payment facility for the wireless operator, which also incorporates a complete Debtors Ledger. Also incorporated are many features based on requests from the existing operator base. This makes the Azotel SIMPLer platform a unique, proven solution based on real life requirements. Multilingual and multicurrency functionality allows deployment of SIMPLer in any country/region. Azotel offers operators two options for deploying the SIMPLer servers. The first option is a hosted model whereby an operator can choose to use a shared server which is then hosted in-house by Azotel, this approach gives the Operator all the benefits of housing mission critical functions in a secure location at a fraction of the cost of the equipment and the cost of maintaining same. The second option which is generally geared towards larger Operators is the option of a dedicated server, which the operator may wish to hosted themselves or it can also be hosted in-house by Azotel, this may suit larger operators who already have secure hosting facilities.

The SIMPLer architecture is shown in Figure 2.2-1. Communication between the Server and the WIB-Client is limited to pushing out configuration files to the WIB-Clients, collecting traffic statistics and providing a virtual tunnel access to private networks, that are configured to the End Customer interface of the WIB. This insures minimal usage of bandwidth between WIB-Client and NOC (SIMPLer) Server. Also this approach gives Operators many possibilities to access WIB enabled networks, to monitor, report errors, access equipment pages etc. In summary, all equipment

The diagram illustrates a mobile network architecture. On the left, a box labeled "Access Network" contains three houses, each with a "Subscriber Module Evolved Home radio". These are connected via dotted lines to a "Gigaset Base Station". Below the station is a "WIB-C" unit, which is connected to a "Network Connection" bar. A red line labeled "Leased Line, Fibre or Satellite backhaul" connects the "Network Connection" bar to a cloud labeled "WWW". A red line labeled "Customer traffic" also enters the "WWW" cloud. To the right of the "Access Network" box, there is a "WIB Client (1GHz)" unit. Above it is "Access Network Equipment" (e.g., Canopy Base Station APs WiMax Ready, 6 APs = 42Mbps). A dashed line labeled "Control traffic" connects the "WIB Client" to a "NOC server" on the far right. The "WWW" cloud is also connected to the "NOC server" by a dashed line.

Note that the WIB-Client will work perfectly without communicating with the server. Communication is needed only for monitoring and pushing out configuration - which happens only whenever there is a change to the profile of the WIB-Client.

The WIB-Client is a Network component based on a small, book sized PC. The fan-less construction with flash memory in place of a hard drive (no moving parts) provides maximum reliability and silence. Based on 533Mhz or 1GHz (Fig. 2.2-1) VIA Eden processor with passive cooling, 512Mb RAM and 2GB Compact Flash Memory, equipped with 3 Ethernet 1 GB ports, the WIB-C makes a good base for deploying networks. Built in bootable Compact Flash memory drive is used to store Operating System, firmware (WIB-C software) and configuration data (generated by SIMPLer). There is no need to connect monitor, mouse or keyboard to the WIB-C as there is no special startup/shutdown procedure. The WIB-C may be powered on/off at will (boot-up takes approx 1 minute). The thin-Client Server architecture ensures that complexity in the WIB-C is kept to a minimum. Low power consumption of the WIB-C makes for a very good solution for both indoor and outdoor environments.





Figure 2.2-2 WIB-Client (1GHz) from each direction



Figure 2.2-3 WIB-C / HIB-C [Up to 4 M/B per 1U Rack Version]

Azotel firmware built into WIB-Client covers following features:

a) Firewall

- protects the WIB-C from unauthorized access. SSH (Secure Shell) using proper user/password combination allows Azotel personnel access the unit.

b) IP Accounting

- Data is reported back to the statistics/accounting module in the Azotel NBOS
- Statistics may be used to generate traffic/usage graphs for customers, or may be used for billing (if the operator imposes traffic caps).

c) Access Control Layer

- Controls the flow of data between the subscribers and the Internet.
- Blocks any packets to/from IP addresses, which are not authorized.
- Optional blocking of ports on an individual subscriber or system-wide basis to help prevent the spread of viruses and spam.
- Optional blocking of P2P file sharing traffic - on an individual subscriber or system-wide basis.

d) Bandwidth Control Layer

- Responsible for controlling and sharing the bandwidth for each subscriber.
- Very flexible, and allows the operator to offer a variety of packages.
- Supports symmetric and asymmetric bandwidth allocation (e.g. 512/512 or 512/256)

- Subscribers may be grouped together to achieve the desired level of contention.
- Where the demand for bandwidth is greater than the available bandwidth, the available bandwidth will be shared in a fair manner.
- Any level of contention may be achieved - e.g. uncontested (dedicated), 8:1, 20:1, etc.

e) NAT (Network Address Translation) Layer

- Performs network address translation and connection tracking for subscribers who do not have a public IP address.
- Minimises the number of public IP addresses that are required by an operator, thereby keeping costs down.
- An added bonus, is that NAT subscribers are firewalled from the internet by the WIB-C. This can help prevent the spread of viruses.

f) Bandwidth Control Manager

- Receives configuration information from the Subscriber Configuration Manager and uses it to configure the Bandwidth Control Layer.
- Can group several individual IP addresses into one logical grouping. This is used when a subscriber has several IP addresses allocated to them. By logically grouping the IP addresses together the Bandwidth Control Manager ensures that the subscriber gets a fair share of available bandwidth in the event of contention.

g) Subscriber Configuration Manager

- Maintains a database of information about authorized subscribers.
- Database is generated by the Azotel NOC, and pushed down to the Subscriber Configuration Manager.
- Subscriber Configuration Manager uses the data to configure the Access Control Layer and NAT function.
- Information is also passed to the Bandwidth Control Manager, which uses it to configure the Bandwidth Control Layer.
- Changes to subscriber information is pushed down to lower layers without affecting service - i.e. adding/deleting/modifying a subscriber does not cause any impact on service to other subscribers.

h) System Configuration Manager

- Controls all system level information
- Database is generated by the Azotel NOC, and pushed down to the System Configuration Manager.
- Configures and controls the physical Ethernet interfaces (IP addresses, netmasks, etc)
- Configures the firewall
- Configures access control (port blocking, P2P file sharing blocking) on a system-wide basis (see Access Control Layer).
- Configures which hosts the Network Health Manager should monitor.

i) Statistics / Accounting Module

- Gathers statistical and accounting information and makes it available to the Azotel NOC, and operator NOC.
- Information gathered and reported includes:
 - Ethernet traffic
 - CPU usage
 - Connection ID and SYN counting (used for virus detection)
 - Per-subscriber upload/download traffic (IP Accounting)
 - System uptime and load average
 - Network Health

j) Network Health Manager

- Monitors the "reachability" of designated pieces of equipment or hosts by pinging them periodically.
- Reports any failures to the Statistics / Accounting Module, which makes them available to the Azotel and/or operator NOC.

2.2.2 SIMPLer

The purpose of this section is to outline basic concepts for the Azotel Network Operation Centre (NOC or SIMPLer Server) and the SIMPLer platform. SIMPLer performs the Server portion of the Thin-Client - Server SIMPLer platform architecture. As an operating system for that platform Azotel have chosen Linux. SIMPLer is put together with applications and databases that run on Linux e.g. Apache2 Web Server, Perl scripting language, PostgreSQL database, MRTG and many more. At a high level, SIMPLer consists of a series of:

a) Series of databases

- 1) Customer database
- 2) Service/Product database
- 3) Billing database
- 4) Network Node database
- 5) CPE database
- 6) Network Health database

b) User interface

- 1) enable entry and access to data
- 2) alarm/event notification (email & SMS)

c) NBOS (Network Back Office System) engines

- 1) Billing
- 2) Customer provisioning automatic/manual
- 3) CPE provisioning
- 4) Network health
- 5) Traffic Graphs creation

d) Interface adapters

- 1) Banking-on-line
- 2) PRIZM (Motorola Canopy Solution)
- 3) CACTI
- 4) Access Core Node (ACN):
The ACN is a linux device that performs the core routing function of the wireless network. It is also the platform on which advanced multimedia services are introduced to the customer base.

The objective of SIMPLer is to extensively automate the procedures required to operate a Wireless Broadband network, many of which today require experienced technical staff, such that they will require minimal or no manual intervention.

Through automation, an Azotel Operator will have a wireless broadband platform, which can handle substantial more volumes of end-users and require minimum staff to maintain same.

2.3 Web Front-end Functionality overview:

The SIMPLer front-end is the basic data manipulation tool and primary work environment for operator. Access with a valid username/password is via secure web site e.g. <https://wib.azotel.com/>. Different users can have different access levels.

The simplicity of this solution makes setting up operators office very easy, quick and location independent. The only requirement is to have an internet connection and port 5000 unblocked/forwarded if using a virtual tunnel. There are no other demands as all mission critical information and settings can be access simply through the Azotel Web Front-end.

The Web Front-end of SIMPLer gives Operators access to following sets of information:

- 1) statistics
- 2) customer related information
- 3) invoicing information
- 4) products
- 5) network
- 6) tools
- 7) user/operator management

Note, that an operator can have more than one WIB Client as there is no boundary put on that, but the whole management system for all of those is unified with one customer list, invoicing scheme and equipment list. Of course there is a possibility to separate each WIB, and create dedicated operator accounts.

3 Setting up operator environment

3.1 Introduction

Setting up operator details is a task that is normally done once, but every piece of information is necessary and needs to be verified. All fields are used by SIMPLer such as email addresses and all banking details. If in doubt as to the reason for any of the fields, please consult the manual or ask the Azotel support staff for assistance. This will prevent further mistakes and can save lots of time.

The Operator environment data consists of Operator details and users information. All of these can be accessed through the SETTINGS menu (fig 3.1-1) in which there is a table of active system users. Users can be granted different levels of SIMPLer access. Also, operator data can be accessed to modify from here through the “modify WISP details” button.

The screenshot displays the SIMPLer web interface. At the top, the 'azotel outside' logo is on the left, and the 'SIMPLer' logo is on the right. The top navigation bar includes links for Dashboard, Map, Customers, Maintenance, Invoices, Products, Network, Hotspots, VOIP, RADIUS, Tools, Settings, and a QuickSearch field. The 'Settings' menu is active, showing a table of users.

Users Table:

User ID	Email	WISP	Status	Disabled User	
			(3) User	☐	E H
			(2) Operator	☐	E H
			(2) Operator	☐	E H
			(2) Operator	☐	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(2) Operator	☒	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(2) Operator	☐	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(3) User	☒	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(3) User	☒	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(3) User	☐	E H
			(3) User	☒	E H
			(3) User	☐	E H
			(2) Operator	☐	E H

Left Sidebar Navigation:

- General:**
 - Add a new user
 - Add User Rights Template
 - Modify WISP details
 - Downloads
- Customer:**
 - Groups
 - Custom Fields
 - Community Codes
 - Tracking Definitions
 - Marketing Code Definitions
 - Payment Types
 - Post Codes
- Sales Opportunities:**
 - Value Added Reseller
 - Master Agent
 - Regional Sales Manager
 - Sales Opportunity Types
 - Quote Statuses
- Flexible Tax System:**
 - Tax Zones
 - Tax Rates
- Billing:**
 - Billing Issue Types
 - Payment Gateways
 - Tax Calculators
 - Tax Exemption Options

Figure 3.1-1. “Users” page

3.2 SIMPLer Operator general information

Entering the initial operator data is a basic but very critical task. This information can be accessed through the users page by the “Modify WISP detail” button. This page contains all relevant operator data as shown in Fig 3.2-1. It’s very important to keep all the information current. Some fields are used for information purposes only, but most of them are more than important for the SIMPLer solution to work properly.

Dashboard	Map	Customers	Maintenance	Invoices	Products	Network	Hotspots	VOIP	RADIUS	Tools	Settings	QuickSearch ...
-----------	-----	-----------	-------------	----------	----------	---------	----------	------	--------	-------	----------	-----------------

[Back](#)
[Update WISP >](#)

Name/Address Details

WISP ID	Emma ?
Label	?
Name	Emma Testing ?
Timezone	Europe/London ?
Address Scheme	default ?
Address - Street1	River House ?
- Street2	Blackpool Retail Park ?
- Town	Cork ?
- County	Cork ?
- Post Code	?
- Country	Ireland ?
Website	www.azotel.com ?
Language	english ?

Contact details

Phone	+353868842234 ?
Mobile	?
Fax	?
Email	emma@azotel.com,sales@azotel.com,pawel@azotel.com ?
Accounts Email	?
Supports Email	?
Sales Email	?
Maintenance Email	?
Master Franchise Support email	?

Remit Advice Email	?
Dispatch Email	?
Customer Portal Email	?
CC email address	Add CC email ?
CC email list	Delete ?
Alert Mobiles	Add mobile ?
Mobiles list	Delete ?
Contact - Name	?
- Phone	?
- Role	?
- Email	Add Contact ?
Contacts list	?
	Delete ?
	Set as preferred ?

Operator Emails ?

Email	- New Type	Add new type ?
	- Type	?
	- Subject	?
	- Body	?
	- Footer	?
		Delete ?

Banking details

Bank Details Schema	US Banking Scheme ?
Bank Address - Street1	?
- Street2	?
- Town	?
- County	?
- Post Code	?
- Country	?
Bank EFT Orig Id	?
Bank Sort Code	?
Bank Account Number	?
Bank SWIFT	?
Bank IBAN	?
Bank Account Name	?
VAT Reg No	?
Global TAX rate	0.00 ?
Global Flat TAX amount	0.00 ?
Setup TAX rate	0.00 ?
Currency	EUR ?
Invoice Billing Period Dates Shift [months]	?
Email Banking Information	On ?

Network details

Primary DNS	8.8.8.8 ?
Secondary DNS	8.8.4.4 ?
WIB number	Add WIB number ?
WIB number list	104 ? Delete
Default SNMP Community Name	?
Equipment Username	?
Equipment Password	?

Alert Thresholds for WIB (if threshold=0 then alert disabled)

WIB 104 ?	WIB CPU load [%] ?	50	Connection IDs ?	10000	Connection SYN ?	1000	Packets/s max ?	0	Send a traffic dump with WIB alerts ? ☐
WIB 202 ?	WIB CPU load [%] ?	50	Connection IDs ?	10000	Connection SYN ?	1000	Packets/s max ?	0	Send a traffic dump with WIB alerts ? ☐

Subscriber Auto Notify / Disconnect ?**Invoice Payment Due based SAND**

- ☒ Create / Close Billing Issues ?
- ☒ Notification Emails ?
- ☐ Throttling / Auto Disconnection ?

Email From: ?

Email To: ?

Email Bcc: ?

Create Billing Issue Date ?

1st notification email date ?

2nd notification email date ?

Disconnection date ?

Throttling date ?

Minimum Amount Owed ?

Lodgement Failure SAND

(Note: 1st Notification Email is sent right after lodgement failure was reported.)

2nd Lodgement Failure Email ?

3rd Lodgement Failure Email ?

Lodgement Failure Disconnection ?

Invoice SAND Processing Mode ?

☒ Once a Day at a Specified Time

☐ Periodically

Disconnection Time
(Server Local Time: 2015-09-18 15:40:44)
 :

Execute SAND each minutes

Customer Traffic Limit based SAND

- ☐ Notify Customer ?
- ☐ Overage Billing / Throttling / Auto Disconnection ?
- ☐ Do not carry over overage top-ups to the next period ?
- ☐ Do not prorate the CAP in the first month ?
- ☐ Do not set 'valid from' date on overage top-up subscription ?
- ☐ Divide Subscription Allowance by Customer Frequency ?
- ☐ Clear Negative Overage Top-Ups for a new month ?

Email From: ?

Email To: ?

Email Bcc: ?

1st notification email threshold [%] ? Email Limit (monthly) ?

Show Receipts	off	?
Support - Add Maintenance Tickets via EUP	on	?
Support - Add Message		?
Support - Confirm Message		?
Support - General / Listing Page Message		?
Support - Issue Details Message		?
Support - Notification Emails	on	?
Support - Notification Emails - Override Email		?
Support - new ticket Owner		?
VoIP Section	off	?
Vouchers Section	off	?
Vouchers Section - Code Length		?

Vouchers Section - Customer Message

Vouchers Section - Enable Captcha

 ?

Vouchers Section - Letter Case

 ?

Vouchers Section - Payment Type Name

 ?

Vouchers Section - Voucher Code Display Dashes

 ?

Feature: Customer Email Integration

Customer Email Integration - Add nickname to email subject

 ?

Customer Email Integration - CC Addresses List

 ?

Customer Email Integration - Gmail Master Account Label

 ?

Customer Email Integration - Show Gmail Link

 ?

Feature: Send invoices of send method "send via post" to an external FTP server

Invoices to FTP - Enable

 ?

Invoices to FTP - FTP IP address

 ?

Invoices to FTP - FTP password

 ?

Invoices to FTP - FTP server type

 ?

Invoices to FTP - FTP username

 ?

Invoices to FTP - File Format

 ?

Invoices to FTP - Mode

 ?

Form 477

Form 477 - DBA Name

 ?

Form 477 - Date Used

 ?

Form 477 - Default Tech Code

 ?

Form 477 - Fixed Broadband Deployment

 ?

Form 477 Section

 ?

Network Health Monitoring

NHM - Radius Monitoring

 ?

NHM - Radius Monitoring: Minutes Offline Threshold

 ?

Nominal Codes

Enable Alternative Nominal Codes

 ?

Enable Nominal Codes

 ?

New Credit: Default Nominal

 ?

New Product: Default Alternative Nominal

 ?

New Product: Default Nominal

 ?

Receive & Process Emails

'From' Email Address

 ?

Email to CI

 ?

Processing Emails

 ?

SIMPLer Settings

Auto-Close Installer Tracking entry when a maintenance issue is closed	off	?
Auto-Close Salesman Tracking entry when a salesman issue is closed	off	?
Auto-Close maintenance tickets when customer status is "survey failed".	off	?
Auto-Payment Failure - Subscriber Notification	off	?
Auto-Provision - Default SM NAT subnet		?
Auto-Provision - Default SM prefix		?
Auto-Provision - Do not set SNMP access restrictions on SM	off	?
Auto-Provision - Send broadband settings email	on	?
Auto-Provision - Use WIB specific DNS servers	off	?
Auto-Refresh operator's map	on	?
Basestation - CPE association	colour	?
Billing - EFT date shift (days)	0	?
Billing - Early invoices generation offset (days)	0	?
Billing - Invoice - Show only payments made before actual invoice date	off	?
Billing - Invoice Due Date Offset	1	?
Billing - Invoice Generation - Start with Search Box	Off	?
Billing - Invoice Generation Limit		?
Billing - Lock Invoices (once generated, cannot be deleted)	off	?
Billing - Prorated Invoices (Invoicing Day of Month)	off	?
Billing - Require customer approval through EUP for e-check processing (only available for US banking scheme)	off	?
Calculate data usage and allowance for invoice	off	?
Clickatell - Force Sender ID	off	?
Contact Page	off	?
Contact Page - Status	Potential	?
Contact Page - confirmation text		?

Customer Bandwidth Usage	from WIB / RADIUS	?
Customer GPS Data required	off	?
Customer IP Address - Check Duplicate IP	off	?
Customer Name Format	FIRSTNAME LASTNAME	?
Customer Subscription Checking	off	?
Customer Tunnel Details	off	?
Customer Visit - Send Visit Notification Email To Customer	off	?
Display Coverage Overlays on "Add/Modify Customer" page	off	?
EFT - Allow Minus Values in EFT processing (crediting) - must be supported by bank interface	off	?
EFT - Consolidate multiple payment entries for each Customer processed	off	?
Flexible Tax System: Round tax value separately for all individual tax rates	off	?
Fraction Digits - Currency	2	?
Fraction Digits - Subscription Calculations	2	?
Fraction Digits - TAX / VAT	2	?
GPS Coordinates Format	Decimal Degrees	?
Google Map Key		?
Hide the number of subscribers per wib in Network Health Window	off	?
Include Waiting for Install Customers In Referral Fee Tracker	off	?
Invoicing ID Auto Generation	off	?
Invoicing ID Counter		?
Invoicing ID Number Length		?
Invoicing ID Offset	0	?
Invoicing ID Prefix		?
Keep install maintenance issue open when customer transitions from "waiting for install" state	off	?
Keep survey maintenance issue open when customer transitions from "waiting for survey" state	off	?
Lodgement Reference - Auto CC Payment Prefix		?
Lodgement Reference - Auto E-Check Payment Prefix		?
Lodgement Reference - EUP CC Payment Prefix		?
Lodgement Reference - EUP E-check Payment Prefix		?
Lodgement Reference - SIMPLer Invoice CC Payment Prefix		?

Lodgement Reference - SIMPLer Invoice E-check Payment Prefix		?
Maintenance - Add SIMPLer links to Emails	off	?
Maintenance - Send Installer Email on Update	off	?
Mapping: Use metric units for distance	on	?
Master Portal Hostname		?
Network Interfaces - Email Notification Threshold [%]	5	?
Network Interfaces - Email notification that interface is running out of IPs	off	?
Network Interfaces - Generate Alerts based on	Subnet	?
New Customer "Auto Payment - Send Payment Receipt"	off	?
New Customer "Auto Provision - CPE: Activate CPE IP"	No	?
New Customer "Auto Provision - CPE: Activate NAT"	No	?
New Customer "Auto Provision - CPE: Set PPPoE on WAN interface"	No	?
New Customer "Auto Provision - Generate Customer IP Address(es)"	Yes	?
New Customer "Auto Provision - IP Type"	Private	?
New Customer "Auto Provision - Generate Radius Accounts(s)"	Yes	?
New Customer Billing Frequency [Months]	1	?
New Customer Equipment Graphs	on	?
New Customer Exempted Period Allowed	on	?
New Customer Importance	3	?
New Customer Marketing Emails	off	?
New Customer Monitor status	Monitor (Email Alerts)	?
New Customer Note		?
New Customer P2P Restricting	false	?
New Customer Payment Method	Direct Debit	?
New Customer STATEMENT / INVOICE Send Method	Email to Customer	?
New Customer Status	Waiting for install	?
New Customer Tracking	Normal	?
New Customer Type	Customer Home	?

New IP - Allow to auto-update MAC on EUP login	off	?
Nickname Auto-Generate	off	?
Nickname Counter		?
Nickname Length		?
Nickname Offset	0	?
Nickname Prefix		?
Product Based Usage Exemption	off	?
Provisioning Customer Email/FTP Account - Default Domain		?
Provisioning Customer Email/FTP Account - Enable Gmail API	off	?
Provisioning Notes	off	?
Quick Search - Search By	Standard (Name, Nickname,	?
RT Auto Create Tickets	off	?
RT Password		?
RT Server URL		?
RT Username		?
Refer-a-Friend	on	?
Refer-a-Friend - "Free Service Bonus" cycles	0	?
Refer-a-Friend - "Free Service Bonus" months	0	?
Refer-a-Friend - Free cycles per subscriber reference	0	?
Refer-a-Friend - Free months per subscriber reference	0	?
Refer-a-Friend - Subscribers Required for "Free Service Bonus"	0	?
SIMPLer User Session Timeout [Minutes]		?
Scan network periodically and update customer site association	off	?
ServerPlus API - Used ID	Invoicing ID	?
Sidebar on Customer Details Page	On	?
Subscription Auto-Consolidate	off	?
Subscription Auto-Consolidate - Override Description	off	?
Subscription Discount/Premium Verification Pop-up	off	?
System Graphs: Live Graphs Polling Interval	3 sec	?
System Graphs: Static Graphs Engine	Dynamic Graphs (javascript)	?

Turn off IP to gateway interface check on modify customer for already existing IP

off ?

User Password Alphanumeric Only

off ?

User Password Expiration Days

? ?

User Password Strength

? ?

System-wide Emails

Customer Visit Notification Email - Cancelled Text

Customer Visit Notification Email - Confirmation Text

Customer Visit Notification Email - Notify Operator

off ?

Towercoverage

New Customer Invoicing ID/Nickname Prefix

New Customer Status

Web Request ?

Credit Card Details Settings ?

Add Credit Card Option

off ?

Auto Payment Attempts

3 ?

Credit Card Auto Billing Option

on ?

Credit Card Billing Address

off ?

Credit Card Expiration Date

on ?

Credit Card Holder

on ?

Credit Card Number

on ?

Credit Card Type

off ?

Credit Card Types

☐ American Express ? ☐ Visa ? ☐ Discover ? ☐ MasterCard ? ☐ other ?

FTP Server Settings ?

FTP Server: Address

FTP Server: Data Directory

FTP Server: Maintenance Data Directory

FTP Server: Password

FTP Server: Sites Data Directory

FTP Server: Use Directory Structure

no ?

FTP Server: Use Directory Structure For Sites

no ?

FTP Server: Use Secure Connection

no (regular FTP) ?

FTP Server: Username

Hotspot Settings ?

Customer Signup: Send Email

Customer Signup: Send Email - Message

Customer Signup: Send Email - Subject

Customer Signup: Send SMS

Customer Signup: Send SMS - Message

External Radius Server: Database Name

External Radius Server: Database Password

External Radius Server: Database Username

External Radius Server: IP

URL - Acceptable Usage Policy

URL - Terms & Conditions

Figure 3.2-1. “Modify WISPs” page

Explanation of WISP details fields:

Field	Description	Mandatory	Format
-------	-------------	-----------	--------

Field	Description	Mandatory	Format
Name/Address Details			
WISP ID	Operator nickname used for identifying the Operator	Yes	Standard letters and or numbers without spaces and special signs
Name	Full name of the operator	No	Standard letters and or numbers.
Address – Street1	Address street/area details - line 1	Yes	Standard characters
Address – Street2	Address street/area details - line 2	Yes	Standard characters
Address – Town	Only use if necessary (in order to keep address compact on Invoice)	No	Standard characters
Address – County	Only use if necessary (in order to keep address compact on Invoice)	No	Standard characters
Address – Post Code	Postal Code	No	Standard characters
Address – Country	Country	No	Standard characters
Website	Operator's URL	No	Standard letters and or number and special signs
Language	Drop down menu with language selection. This option allows the Operator to choose a language in which the SIMPLer platform displays information.	Yes	Dropdown menu
Contact Details			
Phone	Primary telephone contact number	Yes	Standard Characters
Mobile	Mobile telephone contact number	No	Standard Characters
Fax	Fax number	No	Standard Characters
Email	Email for primary contact. Separate emails with ‘;’ sign if you want to enter more than one. This address is used as default when no email address is set for specific section below.	Yes	Standard Characters. Must be valid email format
Accounts Email	Email for accounts contact and billing related purposes.	No	Standard Characters. Must be valid email format
Supports Email	Email for technical support contact. Used for Network Health alerts (i.e. notification of failing equipment etc)	No	Standard Characters. Must be valid email format
Maintenance Email	Used for Customers Issues - i.e. notifications on updates and closures of Customers Issues and also for the daily list of issues.	No	Standard Characters. Must be valid email format
Master Franchise Support Email	In some markets Azotel has "operators" who oversee/manage several operators. Some of the operator emails (such as the maintenance lists) are also sent to the master franchise support	No	Standard Characters. Must be valid email format

Field	Description	Mandatory	Format
	email.		
Remit Advice Email	Email address that is included in generated invoices. If it is not set it defaults to "Accounts Email". Allows to separate out the generated invoices (going to Accounts) and any replies/queries that might come back from customers.	No	Standard Characters. Must be valid email format
Dispatch Email	Emails related to installers and dispatch. It will also get a copy of the emails with new customer network settings.	No	Standard Characters. Must be valid email format
Customer Portal Email	Allows to set the "From:" email address for emails sent to customers with their access details for the customer portal.	No	Standard Characters. Must be valid email format
CC email address	CC email field for creating CC email list. After entering email click 'Add CC email' button to add it to CC email list	No	Standard Characters. Must be valid email format
CC email list	List of email addresses used with each send out email. To delete click 'delete' button.	No	Standard Characters. Must be valid email format
Alert Mobiles	Mobile Phone numbers used for sending sms network alerts	No	Standard Characters
Mobiles list	List of mobile phone numbers used for sending sms network alerts	No	Standard Characters
Contact –name	Name of a specific contact in the operator's organisation. A number of different contacts can be added.	No	Standard Characters
Contact – Phone	Phone number for the specific contact entered in the Contact – Name field	No	Standard Characters
Contact – Role	Role of the specific contact entered in the Contact – Name field	No	Standard Characters
Contact – Email	Email address for the specific contact entered in the Contact – Name field	No	Standard Characters. Must be valid email format
Add Contact	Click on this button to accept the information entered in the contact name, phone, role and email fields. The contact fields will be cleared to allow details for another contact to be entered	No	Button
Contacts list	1.Dropdown menu showing the list of contacts entered. 2.Link to contact details edit screen (see section 4.2)	No	Dropdown menu
Delete	Click on this button to DELETE a contact in the contact list. To delete the contact select the contact name from the contact list and click on the Delete button	No	Button

Field	Description	Mandatory	Format
Operator Emails			
Email – New Type	Operator defined email templates.	No	Standard Characters
Email – Type	List of all types entered	No	Standard Characters
Email – Subject	Text that will appear in the subject line of the email	No	Standard Characters
Email – Body	Text that will appear in the main body of the email. This can be specified by the operator.	No	Standard Characters
Delete	Click on delete button to delete any email types entered.	No	Button
Banking Details			
Bank Details Scheme	Select appropriate banking scheme to enable EFT payments available for your bank.	No	Dropdown menu
Bank address	Set of fields containing proper address of bank in which operators has their account. This data is used when printing out invoices.	No	Standard Characters.
Bank EFT Orig ID	Name of the account owner - used for generating EFT (Direct Debit) files	No	Standard Characters.
Bank Sort Code	Operators account SORT CODE - used for generating EFT (Direct Debit) files	No	Numbers
Bank Account Number	Operators Account Number (used for generating EFT files)	No	Numbers
Bank SWIFT	Operators account BANK SWIFT CODE (printed out on invoices)	No	Standard Characters and numbers.
Bank IBAN	Operators account IBAN code (printed out on invoices)	No	Standard Characters and numbers.
Bank Account Name	Operators account name	No	Standard characters and numbers
VAT Reg No	Operators VAT Reg No	No	Standard characters and numbers
Global VAT rate	Specifies the overall VAT rate that will be applied to customer invoices, this will be set to a default of 21.00 (21%)	No	Numbers
Setup VAT rate	Specifies the VAT rate that will be applied to the setup/installation fee, this will be set to a default of 21.00 (21%)	No	Numbers
Currency	Currency in which the invoices and payments will be made	No	Drop Down List
Invoice Billing Period Dates Shift [months]	Shifts the billing period date on invoices forward the specified number of months. Note: The actual 'Invoice date' is not affected in any way by changing this parameter.	No	Numbers
Email Banking		No	Drop Down menu

Field	Description	Mandatory	Format
Information			
Network Details			
Primary DNS	Primary DNS server used by operator. Used when generating IP settings for the customer	Yes	Numbers and period sign. Must be valid IP address
Secondary DNS	Secondary DNS server used by operator. Used when generating IP settings for the customer.	Yes	Numbers and period sign. Must be valid IP address
WIB number	Number of operator WIB client	No	Numbers
Add WIB number	Click on this button to accept the information entered in the WIB number field. The contact fields will be cleared to allow details for another contact to be entered	No	Button
WIB number list	1.Drop down menu showing the list of WIB-Clients, that an operator has in use. This has to be filled for the WIB part of SIMPLer solution to work. 2.Link to contact details edit screen (see section 4.2)	No	Dropdown menu
Delete	Click on this button to DELETE a contact in the contact list. To delete the contact select the contact name from the contact list and click on the Delete button	No	Button
Default SNMP Community Name	SNMP community name used for read and write access to equipment.	No	Standard Characters
Equipment Username	Username field used for read and write access to Motorola Canopy equipment	No	Standard characters and numbers
Equipment Password	Password field used for read and write access to Motorola Canopy equipment	No	Standard characters and numbers
Alert Thresholds for WIB (if threshold=0 then alert disabled) Subscriber Auto Notify / Disconnect			
Invoice Payment Due (IPD) based SAND			
Create/Close Billing Issues	Specifies whether SAND will automatically create Billing issue when an Invoice has become overdue and to automatically close the issue once the Invoice has been paid.	No	Check Box
Notification Emails	Specifies whether notification emails will be sent to customers due to an overdue invoice payment. 1 st and 2 nd email notification dates can also be specified.	No	Check Box
Throttling/Auto Disconnection	Specifies whether customers will be either Throttled or Auto Disconnected due to an overdue invoice payment.	No	Check Box
Email From	Specify the From: address of any warning emails sent by the IPD SAND feature. If this is not	No	Standard characters. Must be valid email

Field	Description	Mandatory	Format
	specified the operators accounts email address (of the operators default email address if the accounts email address is not set) will be used		format.
Email To	Specifies the To: address of any warning emails sent by the IPD SAND feature. By default the customers email address will be used, causing the warning emails to be sent directly to them. However the operator may specify an email address here instead. In this case all of the warning emails will be sent to this email address rather than directly to the customer. An example of the use of this might be for testing purposes or to send all of the emails to a customer service department, who may contact the customers	No	Standard characters. Must be valid email format.
Email BCC	Specifies the Bcc: address of any warning emails. If this is not specified the operators accounts email address (of the operators default email address if the accounts email address is not set) will be used	No	Standard characters. Must be valid email format.
Create Billing Issue Date	Specifies the date on which the billing issue will be created once the Invoice has become overdue. This is specified once the “ Create / Close Billing Issues” has been checked.	No	Text according to a specified format.
1st notification email date	Specifies the date on which the first warning email will be sent. The default value is “%FREQ% - 14 days”, which will cause the warning email to be sent 14 days before the next invoice is due. If this field is blank the corresponding warning email will not be sent.	No	Text according to a specified format
2nd notification email date	Specifies the date on which the second warning email will be sent. The default value is “%FREQ% - 7 days”, which will cause the warning email to be sent 7 days before the next invoice is due. If this field is blank the corresponding warning email will not be sent.	No	Text according to a specified format
Disconnection date	Specifies the date on which the customer will automatically be disconnected, if auto disconnect is enabled. The default value is “%FREQ%” which will cause the customer to be disconnected on the date the next invoice is due to be issued. If this field is blank a notification email will not be sent and the customer will not be disconnected. See below for a description of the format of this field	No	Text according to a specified format
Throttling date	Specified the date on which the customers’ bandwidth will be throttled	No	Text according to a specified format.

Field	Description	Mandatory	Format
Disconnection Time	The time of the day at which the notification / disconnection job is run Note that time relates to the local time on the SIMPLer server (which may be in a different time zone to the operator). The local time on the server is displayed on the configuration page.	Yes	Time from Dropdown menu
Customer Traffic Limit Based SAND			
Email From	Specify the From: address of any warning emails sent by the CTL SAND feature. If this is not specified the operators accounts email address (of the operators default email address if the accounts email address is not set) will be used	No	Standard characters. Must be valid email format.
Email To	Specifies the To: address of any warning emails sent by the CTL SAND feature. By default the customers email address will be used, causing the warning emails to be sent directly to them. However the operator may specify an email address here instead. In this case all of the warning emails will be sent to this email address rather than directly to the customer. An example of the use of this might be for testing purposes or to send all of the emails to a customer service department, who may contact the customers	No	Standard characters. Must be valid email format.
Email Bcc	Specifies the Bcc: address of any warning emails. If this is not specified the operators accounts email address (of the operators default email address if the accounts email address is not set) will be used	No	Standard characters. Must be valid email format.
1st notification email threshold (%)	Specifies the percentage of allowed CAP at which the first warning email will be sent. The default value is 80%. If this field is blank the corresponding warning email will not be sent.	No	Numbers
2nd notification email Threshold (%)	Specifies the percentage of allowed CAP at which the second warning email will be sent. The default value is "95%". If this field is blank the corresponding warning email will not be sent.	No	Numbers
Disconnection threshold (%)	Specifies the percentage of allowed CAP at which the customer will automatically be disconnected, if auto disconnect is enabled. The default value is "105%". If this field is blank a notification email will not be sent and the customer will not be disconnected.	No	Numbers
Overage/Throttling threshold (%)	Specifies the percentage of allowed CAP at which Overage or Throttling will commence. The default for this is set to 'Off'.	No	Numbers

Field	Description	Mandatory	Format
Calculation Period	This specifies the period that the SAND calculations are based,	No	Dropdown menu
Disconnection Time	The time of the day at which the notification / disconnection job is run Note that time relates to the local time on the SIMPLer server (which may be in a different time zone to the operator). The local time on the server is displayed on the configuration page.	No	Time from Dropdown menu
SAND run – exclude days of disconnection			
Exclude days of week	Specifies what days of the week during which SAND will not run. This is a helpful tool for Operators if they do not wish for SAND to run on Sundays for example, if they will not of the manpower present to deal with calls and accidental disconnections from their Customers.	No	Check Boxes
Select days to be excluded	Specifies particular calendar days during which SAND will not run. This is helpful if Operators would like to specify particular public holidays during which SAND will not operate.	No	Dropdown menu
Excluded days	Lists all calendar dates to be excluded according to “ <i>select days to be excluded</i> ”.	No	Dropdown list
Automatic Maintenance Issue Emails			
Types To Be Sent:	Allows maintenance issues of selected types to be emailed automatically to a specified address.	No	Check boxes
Destination Email Address:	Specifies which email address the maintenance issue email will be sent to	No	Standard characters. Must be valid email format.
Email Address List:	Displays a list of all email entered.	N/A	Dropdown list
SIMPLer Settings			
Auto-Close Installer Tracking entry when a maintenance issue is closed	Auto-Close Installer Tracking entry when a maintenance issue is closed. • Yes • No	No	Dropdown menu
Auto-Close Salesman Tracking entry when a salesman issue is closed	Auto-Close Salesman Tracking entry when a salesman issue is closed. • Yes • No	No	Dropdown menu
Auto-Provision - Default SM NAT subnet	Allows to specify subnet for customer’s LAN when provisioning SM with NAT enabled e.g. 192.168.99.1 / 255.255.255.0	No	Standard IP entry. Numeric and punctuations

Field	Description	Mandatory	Format
Auto-Provision - Default SM prefix	Default SM prefix set when auto-provisioning. If left blank default will be set to SM-	No	Standard Characters
Auto-Provision - Do not set SNMP access restrictions on SM	- On - Off When “off” is selected, it will automatically restrict SNMP access to WIB private network	No	Dropdown menu
Auto-Provision - Use WIB specific DNS servers	Allows using WIB specific DNS servers for provisioned customers. Useful when different WIBs are fed by different upstream providers. If WIB DNS settings are blank, global per WISP DNS settings are used by default.	No	Dropdown menu
Billing - EFT date shift (days)	Specifies number of days from invoice post date after which EFT payment can be processed	No	Numbers.
Billing - Early invoices generation offset (days)	Number of days <i>BEFORE</i> standard invoice date an invoice can be issued.	No	Numbers.
Billing - Lock Invoices (once generated, cannot be deleted)	- On - Off If On is selected, once Invoices have been generated through SIMPLer, they cannot be deleted.	No	Dropdown menu
Billing - Require customer approval through EUP for e-check processing (only available for US banking scheme)	Disables EFT processing for invoices without explicit customer’s approval set through the End User Portal (EUP) <i>Note:</i> The only applies for US banking schemes.	No	Dropdown menu
Calculate data usage and allowance for invoice	- On - Off This will specify whether ‘Calculate data usage and allowance for invoice’ is turn On or Off	No	Dropdown menu
Contact Page	Allows user to turn on/off contact page that might be embedded in Operator web page.	No	Dropdown menu
Contact Page - Status	- Potential - Enquiry Allows User to set default of customer’s status of the account that is automatically created when query from webpage is received.	No	Dropdown menu
Contact Page - confirmation text	Specifies the text that will be seen by customers, once they have sent query e.g. <i>“Thank you for your query. We will follow up shortly.”</i> <i>Best Regards”</i>	No	Standard Text and characters.
Customer Email/FTP Account - Default Domain	Specifies the default domain set when creating Email/FTP accounts (If interface is available).	No	Standard domain format with letter, characters and numbers.

Field	Description	Mandatory	Format
Customer GPS Data required	- On - Off Specifies if GPS co-ordinates are required fields in the customer details.	No	Dropdown menu
EUP - Activate "End User Portal" and automatically email password to customer	- On - Off Set End User Portal (EUP) password automatically for new customers and send information via email.	No	Dropdown menu
EUP - Hide Customer's End User Portal password	- On - Off Masks customers password to End User Portal (EUP) displayed under customer details page.	No	Dropdown menu
Hide the number of subscribers per WIB in Network Health Window	- On - Off Hides the number of subscribers per WIB in Network Health Window	No	Dropdown menu
Invoicing ID Auto Generation	- On - Off When "on" customer invoicing ID is generated automatically as the next value based on invoicing ID counter and prefix.	No	Dropdown menu
Invoicing ID Counter	Name of invoicing ID counter. Use operator name for operator specific counter or leave blank for default (per server) counter.	No	Standard Characters and Numbers.
Invoicing ID Number Length	Allows adding leading zeros to Invoicing ID sequence.	No	Standard Numbers
Invoicing ID Offset	Specifies a number by which invoicing ID sequence is increased. Allows to set initial value to be other than 1	No	Standard Numbers
Invoicing ID prefix	Invoicing ID prefix	No	Standard Characters and Numbers
Network Interfaces - Email Notification Threshold [%]	Notification is sent out to Operators, if only interface has less then set value (in percent) IP addresses.	No	Standard Numbers <100.
Network Interfaces - Email notification that interface is running out of IPs	- On - Off Send email to operator when interface is running out of IPs	No	Dropdown menu.
New Customer Billing Frequency [Months]	Specifies the default recursive, invoicing interval in months.	Yes	Numbers
New Customer IP type	- Private - Public Default Customer IP type set when creating a new customer.	N/A	Dropdown menu.

Field	Description	Mandatory	Format
New Customer Importance	Default Customer Importance set when creating a new customer account.	N/A	Dropdown menu.
New Customer Monitor status	Default Customer Monitor status set when creating a new customer account.	Yes	Dropdown menu.
New Customer P2P Restricting	• True • False Specifies if P2P Restricting is enabled by default when creating a new customer account.	Yes	Dropdown menu
New Customer Payment Method	Default customer payment set when creating a new customer.	Yes	Dropdown menu
New Customer STATEMENT / INVOICE Send Method	Default Invoice send method set when creating a new customer.	Yes	Dropdown menu
New Customer Status	Default Customer status set when creating a new customer.	Yes	Dropdown menu
New Customer Tracking	Default Customer tracking set when creating a new customer.	Yes	Dropdown menu
New Customer Type	Default Customer type set when creating a new customer.	Yes	Dropdown menu
Provisioning Notes	Allows user to provide notes when provisioning a subscriber module (CPE)	Yes	Dropdown menu
SIMPLer User Session Timeout [Minutes]	Number of minutes of inactivity before user is required to log back in.	No	Standard numeric
Search customers by base station, site based on	Specifies basis to search customers by base-station or site.	Yes	Dropdown menu
Turn off IP to gateway interface check on modify customer for already existing IP	• On • Off If "Off" system will alert when specified IP address is already in use.	Yes	Dropdown menu
End User Portal Settings			
Account Menu - Password Change Section	Allows Customer to change password on the End User Portal.	N/A	Dropdown menu
Account Menu - Personal Information Section	Enables user to view personal information section on the End User Portal	N/A	Dropdown menu
Account Menu - Personal Information Section Banking details	Enables banking details on the End User Portal	N/A	Dropdown menu

Field	Description	Mandatory	Format
Account Menu - Personal Information Section Credit Card Details	Enables Credit Card details overview on the End User Portal	N/A	Dropdown menu
Account Menu - Personal Information Section Credit Card Details Edit	Allows customer to modify Credit Card details.	N/A	Dropdown menu
Account Menu - Personal Information Section Details Edit	Allows customer to modify Personal Information details.	N/A	Dropdown menu
Account Menu - STATEMENT / INVOICE Section	Enables Invoice Section on the End User Portal	N/A	Dropdown menu
Account Menu - Terms & Conditions Section	Specifies whether the Terms and Conditions section will be shown on the End User Portal	N/A	Dropdown Menu
Account Menu - Terms & Conditions Statement (HTML)	Account Menu - Terms & Conditions Statement (HTML)	No	HTML text
Account Menu Section	Enables Account Menu Section on the End User Portal	N/A	Dropdown menu
Allow customers without preset password to use Forgot Password	This will allow customers without preset password to use Forgot Password	N/A	Dropdown menu
Bank Details - Hide Bank Account Number	When enabled, only last four digits of bank account number are visible	N/A	Dropdown menu
Captcha login human element verification	Captcha login human element verification on the End User Portal	N/A	Dropdown menu
Currency HTML Code	Currency HTML Code used on the End User Portal	N/A	HTML text
End User Portal Session Timeout [Minutes]	End User Portal Session Timeout [Minutes] Defaults to 60 min if not specified	No	Standard numeric
End User Portal URL	End User Portal URL	No	Standard Characters, Numbers and symbols with URL format.
Hotspot Section	Enables Hotspot service overview on the End User Portal	N/A	Dropdown menu

Field	Description	Mandatory	Format
Network - IP Settings Section	Enables IP Details overview on the End User Portal	N/A	Dropdown menu
Network - IP Settings Section Details Edit	Allows customer to modify IP Details	N/A	Dropdown menu
Network - Speed Test Section	Enables speed test on the End User Portal	N/A	Dropdown menu
Network - Speed Test Server URL to swf file (leave blank to use SIMPLer hosted speed test)	Network - Speed Test Server URL to swf file (leave blank to use SIMPLer hosted speed test)	No	Standard Characters, Numbers and symbols with URL format.
Network - Usage Section	Enables customer usage graphs on the End User Portal	N/A	Dropdown menu
Network - Usage Stats Short Mode	Displays current usage stats in short mode for overage billing (CAP + current usage only). When 'on' will also display the stats on the main page of EUP.	N/A	Dropdown menu
Network Section	Enables Network Section on the End User Portal	N/A	Dropdown menu
New Customer - Password Change at First Login	Forces a customer to change password upon the first login	N/A	Dropdown menu
VoIP Section	Enables VoIP service overview on the End User Portal	N/A	Dropdown menu
Credit Card Details Settings			
Credit Card Auto Billing Option	Specifies whether the Credit Card Auto Billing Option is turned 'On' or 'Off'.	N/A	Dropdown menu
Credit Card Billing Address	Specifies whether the Credit Card Billing Address is to be entered into the Credit Card details page of the Customer record.	N/A	Dropdown menu
Credit Card Expiration Date	Specifies whether the Credit Card expiration date is to be entered into the Credit Card details page of the Customer record.	N/A	Dropdown menu
Credit Card Holder	Specifies whether the Credit Card holders' names are to be entered into the Credit Card details page of the Customer record.	N/A	Dropdown menu
Credit Card Number	Specifies whether the number of the Credit Card needs to be entered into the Credit Card details page of the Customer record.	N/A	Dropdown menu
Credit Card Type	Specifies whether the Credit Card type needs to be stated in the Credit Card details page of the Customer record.	N/A	Dropdown menu
Credit Card Types	Specifies which Credit Card type will be accepted by the Operator.	N/A	Check Boxes

Field	Description	Mandatory	Format
Hotspot Settings			
Admin Only			
FTP Server Settings			
FTP Server: Address	This is the URL (or IP) of the FTP server that will be used to store files associated with customer accounts (e.g. recorded calls, scanned contracts, install photos, etc.). This server must be provided by the operator. This is a required field if the operator wants to use the file attachment option for customers.	No	Standard URL format with character numbers and symbols
FTP Server: Data Directory	This is the actual folder on the FTP server where attachments will be stored (e.g. /customer files/). This is not required. If this isn't specified all files will just be upload to the default ftp directory for the account used	No	
FTP Server: Password	This is the password of the user account used to access the FTP server. This is required even when using FTP servers that allow anonymous connections.	No	
FTP Server: Use Secure Connection	Specify whether or not a secure connection should be used. This is determined by the FTP server configuration. If the FTP server is not configured for secure connections then this option should be set to "off".	No	Dropdown menu
FTP Server: Username	The username used to access the FTP server. A new account should be created for SIMPLer to use to increase access security for customer files	No	
Radius Server Settings			
Admin. Only			
Services			
Admin Only			

3.3 SIMPLer User management

There are many user access levels available within the SIMPLer platform. Each operator can define more than one user with access granted to specified parts of platform. This tool comes in handy for bigger operators who wish to separate access levels. Managing users can be accessed through 'settings' option in menu (Fig 3.1-1). There are three basic actions connected with user creation: adding new user, deleting user and modifying it's data. The following information has to be filled out for each SIMPLer user:

Field	Description	Mandatory	Format
User ID	Operator nickname used for authentication	Yes	Standard letters and or numbers without spaces and special signs
Mail	Email address	No	Standard letters and or numbers. Must be a valid email address
Status	User Status (access level), there are three levels: 1) Operator – full access to solution 2) User – full access, but without possibility to access/modify user and SIMPLer data 3) Restricted user – user with restricted access to financial part of SIMPLer, to emailing functionalities etc.	Yes	Dropdown menu
WISP	Dropdown menu with SIMPLer operators accessible for particular user	Yes	Dropdown menu
Language	Dropdown menu with language option for specified user. Note that this setting changes only language displayed on the Web interface. Invoices and all other documents will be printed out using operators general language setting	Yes	Dropdown menu
Password	Optional field used for password changes. If there is no need for change do leave it blank	No	Standard characters and or numbers
Confirm	Optional field used for new password confirmation	No	Standard characters and or numbers

azotel
.....outside

Login: **aleksandra**
WISP: [REDACTED]
Modify Users

Recently Viewed Customers

Logout

WIB (101) out of sync!

Update WIB files

inbox (0)

SIMPLer

DashboardMapCustomersMaintenanceInvoicesProductsNetworkHotspotsVOIPRADIUSToolsSettingsQuickSearch ...

User Details

Main Details

User ID

Mail

Full Name

Status

(3) User

WISP

Language

us_english

Show LangID☐

Phone

Skype

Other Details

Landing Page

Customer Search Page

Change Default Search Option

Standard (Name, Nickname, Invoicing ID)

Recently Viewed Customer List

Displayed By

Display Name

Numbers to be displayed

6

Modify password

Password

Confirm

Expiration Days

Sales Items

Value Added Reseller

Master Agent

Regional Sales Manager

User Rights Template

Use as a Template ?☐

Template Name

Override User Rights with:

Back

Reset

Delete

Update

User Rights

Clear All Rights

Select All Rights

Set Rights from Template:



attachments	access ☒	add ☒	modify not-owned ☒	billing information ☐
	network information ☐	maintenance ☐	sales tracking ☒	
billingissues	access ☒	send ☐		
credits	access ☒	add ☒	modify ☒	
customers	access ☒	add ☒	modify ☒	search ☒
	mass email ☐	spreadsheets ☐	creditcard ☒	bankdetails ☒
	view bank account ☐	privatenote ☒	modify subscriptions ☒	free service ☐
	view EUP password ☐	SAND - traffic ☒	SAND - invoice ☒	payment authorization codes ☒
	cc/echeck transaction log ☐	send sms ☐	refund ☒	
customfields	access ☒	modify ☐		
dashboard	access ☒	debtor aging ☐	cash flow projection ☐	revenue ☐
	arpu ☐	subscribers ☒	top20 ☐	tickets ☒
	spreadsheet ☐	form477 ☐	pipeline ☐	
financialtools	access ☒	cash flow ☐	lock database ☐	
gateway	WIB - access ☐	WIB - modify ☐	buckets - access ☐	buckets - modify ☐
	routes - access ☐	routes - modify ☐		
history	access ☒			
hotspots	access ☐	manage share plans ☐	manage hotspots ☐	manage products ☐
	add tokens ☐			
installers	access ☒	add ☐	modify ☐	
installertracking	access ☒	add ☒	modify ☒	list not-owned ☒
invoices	access ☒	delete ☐	mySIMPLer ☐	
lodgements	access ☒	delete ☐	modify processing date ☒	
maintenance	access ☒	send ☒	only disti ☐	modify not-owned ☒
	azotel internal ☐	access attachments ☒	modify attachments ☒	
maintenancetype	access ☐			
map	coverage checker ☐	coverage - view only ☒		
network	access ☐	modCredentials ☐	site costs ☐	delete equipment ☐
notes	delete ☐			
prepayments	access ☒	add ☒	modify ☒	
products	access ☐	add ☐	modify ☐	delete ☐
quotes	access ☒	add ☒	modify ☒	delete ☒
radius	access ☒	add ☒	modify ☒	
referafriend	access ☒			
salesissues	access ☐	emails ☐	modify not-owned ☐	summary ☐
salestracking	access ☐	add ☐	modify ☐	see other members ☐
settings	payment gateways ☐	billing issue types ☐	cronjob - access ☐	customer groups ☐
	tax calculators ☐	trigger api ☐		
stats	access ☐			
tools	access ☒	autoprovision ☒	reboot wib ☒	update wib ☒
	update buckets ☐	update radius ☒	update services ☒	tcpdump ☐
	zip ☐			
users	access ☒	add ☐	modify other ☐	change operator ☐
	operator details ☐	translations ☐	gcal ☐	rights templates ☐
	gcontact ☐	disable other ☐		
voip	access ☐			

Figure 3.3-1. "Modify users" page

3.3.1 Adding user

azotel Login: **aleksandra**
WISP: **Emma**
Add Users

Recently Viewed Customers

Logout

WIB (104) out of sync! Update WIB files

inbox (2)

SIMPLer

Dashboard Map Customers Maintenance Invoices Products Network Hotspots VOIP RADIUS Tools Settings QuickSearch ...

User Details

Main Details

User ID

Mail

Full Name

Status

WISP

Language

Phone

Skype

Other Details

Landing Page

Change Default Search Option

Recently Viewed Customer List

Displayed By

Numbers to be displayed

New password
If you do not specify a password, one will be generated automatically
User's details will be automatically sent to the email address provided

Password

Confirm

User Rights Template

Use as a Template ☐

Template Name

Override User Rights with:

Back Reset Add

Figure 3.3.1-1. "Add users" page

Steps:

- 1) Click on the **'settings'** tab in main menu
- 2) Use the **'Add a new user'** link. 'Add user' page will be shown (Fig 3.3.1-1)
- 3) Fill out user text information such as user ID, mail
- 4) Set information dropdown menus
- 5) Fill out password and confirm field for new user. This step is optional. If no password is specified, a new password will be automatically generated and sent to email provided in 'mail' field.
- 6) Click 'Add User' button

3.3.2 Delete user

The screenshot displays the 'Users' management interface in the SIMPLer system. The top navigation bar includes links for Dashboard, Map, Customers, Maintenance, Invoices, Products, Network, Hotspots, VOIP, RADIUS, Tools, Settings, and a QuickSearch field. The user is logged in as 'aleksandra' with WISP 'Emma'. System status shows 'W/B (104) out of sync!' and 'inbox (2)'. The left sidebar provides navigation for various system settings, including General (Add new user, Add User Rights Template, Modify WISP details, Downloads), Customer (Groups, Custom Fields, Community Codes, Tracking Definitions, Marketing Code Definitions, Payment Types, Post Codes), Sales Opportunities (Value Added Reseller, Master Agent, Regional Sales Manager, Sales Opportunity Types, Quote Statuses), Flexible Tax System (Tax Zones, Tax Rates), and Billing (Billing Issue Types, Payment Gateways, Tax Calculators, Tax Exemption Options).

The main content area is titled 'Users' and shows 'Results 1 - 69 of 69'. It contains a table with the following columns: User ID, Email, WISP, Status, Disabled User, and a final column with icons. The table lists various user roles such as 'User' and 'Operator' with their respective counts (e.g., (3) User, (2) Operator). The 'Disabled User' column contains checkboxes, and the final column contains icons representing different user types or statuses.

Figure 3.3.2-1. “Search for information about users” page

Steps:

- 1) Go to **‘settings’** page in main menu
- 2) Choose the user you wish to delete and click on the name (Fig 3.3.2-1) to access the ‘Modify Users’ page (Fig 3.3.2-2)
- 3) Click the “Delete” tab to remove the user details from SIMPLer



Login: **aleksandra**
 WISP: [REDACTED]
 Modify Users

Recently Viewed Customers

Logout

WIB (101) out of sync!

Update WIB files

inbox (0)



Dashboard
 Map
 Customers
 Maintenance
 Invoices
 Products
 Network
 Hotspots
 VOIP
 RADIUS
 Tools
 Settings
 QuickSearch ...

User Details

Main Details

User ID

[REDACTED]

Mail

[REDACTED]

Full Name

[REDACTED]

Status

(3) User

WISP

[REDACTED]

Language

us_english

Show LangID

☐

Phone

Skype

Other Details

Landing Page

Customer Search Page

Change Default Search Option

Standard (Name, Nickname, Invoicing ID)

Recently Viewed Customer List

Displayed By

Display Name

Numbers to be displayed

6

Modify password

Password

Confirm

Expiration Days

Sales Items

Value Added Reseller

Master Agent

Regional Sales Manager

User Rights Template

Use as a Template ?

☐

Template Name

Override User Rights with:

Back
 Reset
 Delete
 Update

Figure 3.3.2-2 'Modify Users' page.

3.3.3 Modifying user



Login: **aleksandra**
 WISP: [REDACTED]
 Modify Users

Recently Viewed Customers

Logout

WIB (101) out of sync!

Update WIB files

inbox (0)



Dashboard
 Map
 Customers
 Maintenance
 Invoices
 Products
 Network
 Hotspots
 VOIP
 RADIUS
 Tools
 Settings
 QuickSearch ...

User Details

Main Details

User ID

[REDACTED]

Mail

[REDACTED]

Full Name

[REDACTED]

Status
 (3) User

WISP

[REDACTED]

Language
 us_english

Show LangID
 ☐

Phone

Skype

Other Details

Landing Page
 Customer Search Page

Change Default Search Option
 Standard (Name, Nickname, Invoicing ID)

Recently Viewed Customer List

Displayed By
 Display Name

Numbers to be displayed
 6

Modify password

Password

Confirm

Expiration Days

Sales Items

Value Added Reseller

Master Agent

Regional Sales Manager

User Rights Template

Use as a Template ?
 ☐

Template Name

Override User Rights with:

Back
 Reset
 Delete
 Update

User Rights

Clear All Rights Select All Rights

Set Rights from Template:

attachments	access ☒	add ☒	modify not-owned ☒	billing information ☐
	network information ☐	maintenance ☐	sales tracking ☒	
billingissues	access ☒	send ☐		
credits	access ☒	add ☒	modify ☒	
customers	access ☒	add ☒	modify ☒	search ☒
	mass email ☐	spreadsheets ☐	creditcard ☒	bankdetails ☒
	view bank account ☐	privatenote ☒	modify subscriptions ☒	free service ☐
	view EUP password ☐	SAND - traffic ☒	SAND - invoice ☒	payment authorization codes ☒
	cc/echeck transaction log ☐	send sms ☐	refund ☒	
customfields	access ☒	modify ☐		
dashboard	access ☒	debtor aging ☐	cash flow projection ☐	revenue ☐
	arpu ☐	subscribers ☒	top20 ☐	tickets ☒
	spreadsheet ☐	form477 ☐	pipeline ☐	
financialtools	access ☒	cash flow ☐	lock database ☐	
gateway	WIB - access ☐	WIB - modify ☐	buckets - access ☐	buckets - modify ☐
	routes - access ☐	routes - modify ☐		
history	access ☒			
hotspots	access ☐	manage share plans ☐	manage hotspots ☐	manage products ☐
	add tokens ☐			
installers	access ☒	add ☐	modify ☐	
installertracking	access ☒	add ☒	modify ☒	list not-owned ☒
invoices	access ☒	delete ☐	mySIMPLer ☐	
lodgements	access ☒	delete ☐	modify processing date ☒	
maintenance	access ☒	send ☒	only disti ☐	modify not-owned ☒
	azotel internal ☐	access attachments ☒	modify attachments ☒	
maintenancetype	access ☐			
map	coverage checker ☐	coverage - view only ☒		
network	access ☐	modCredentials ☐	site costs ☐	delete equipment ☐
notes	delete ☐			
prepayments	access ☒	add ☒	modify ☒	
products	access ☐	add ☐	modify ☐	delete ☐
quotes	access ☒	add ☒	modify ☒	delete ☒
radius	access ☒	add ☒	modify ☒	
referafriend	access ☒			
salesissues	access ☐	emails ☐	modify not-owned ☐	summary ☐
salestracking	access ☐	add ☐	modify ☐	see other members ☐
settings	payment gateways ☐	billing issue types ☐	cronjob - access ☐	customer groups ☐
	tax calculators ☐	trigger api ☐		
stats	access ☐			
tools	access ☒	autoprovision ☒	reboot wib ☒	update wib ☒
	update buckets ☐	update radius ☒	update services ☒	tcpdump ☐
	zip ☐			
users	access ☒	add ☐	modify other ☐	change operator ☐
	operator details ☐	translations ☐	gcal ☐	rights templates ☐
	gcontact ☐	disable other ☐		
voip	access ☐			

Figure 3.3.3-1. "Modify users" page

Steps:

- 1) Go to 'settings' page in main menu
- 2) Choose user to be modified and click on the name (figure 3.3.2-1) to access the 'user modify' page (Fig 3.3.3-1)
- 3) Update the user data

- 4) Click the 'Update' button when finished

4 Network Management

4.1 Introduction

The Network details page (fig.4.1-1) is the place in which all relevant information about the WIB-Client and the operator network structure is stored. This approach gives flexibility when searching for information about a particular network element and also provides a facility to configure all general settings of the Azotel WIB-Client. The Network Management part of SIMPLer can be divided into two parts:

- 1) Access Network equipment information – Site Details, Base Stations details and Equipment details positions from submenu are providing functionality to store information about the network geographical and equipment structure. Site Details are covering all mission critical geographical locations (address + contact), in which operator equipment has been deployed. Equipment Details covers all equipment related data - each entry is one physical device deployed in operator network. Base Stations defines Base Stations by linking Site Details and Equipment data. This is to define where the most important, ‘base’ devices can be found. Also note, that all Base Stations are under Network Health Monitoring by default, so it is very important to have them defined here.
- 2) WIB-Client configuration – Gateways details and Interface Details subpages are covering all relevant information related to the WIB-Client. Gateways details covers configuration (setting up new gateways, adding new interfaces, bucket etc.) and statistics functionality for all gateways. Each gateway represents one WIB-Client. Interface details covers the information about LAN interfaces on the WIB-Client.

From an operator perspective, having Sites, Base Stations details and Equipment Details complete and up to date is very important task. This is especially the case when searching for information during network troubleshooting. When it comes to changing values in the Gateway details and interface details it is strongly advised to do that with the assistance of an Azotel engineer, unless there is a very good understanding by the user.

The screenshot shows the SIMPLer web interface. At the top, there's a header with the azotel logo, user login info (aleksandra, Test: New label), and a 'Log out' button. Below the header is a navigation bar with tabs: Dashboard, Map, Customers, Maintenance, Invoices, Products, Network (selected), Hotspots, VOIP, RADIUS, Tools, Settings, and a QuickSearch bar. The main content area is titled 'Sites details' and shows a table of network sites. The table has columns: Site ID, Name, Common Name, Gateway, Contact, Access Information, GPS Co-Ords, Base Stations, Other Active Equipment, and Stock. The table lists 8 sites, each with a 'Details' button and a 'G' icon. The page also includes a search bar, filters for Site Type and Status, and a 'Log out' button.

Site ID	Name	Common Name	Gateway	Contact	Access Information	GPS Co-Ords	Base Stations	Other Active Equipment	Stock
1	Mandla tr ui			Campbell		✓	6	Add	Add
2	Njabulo			Burke		✓	5	Add	Add
3	Phumlani			Osborne		✓	3	Add	Add
4	Simphiwe			Gans		✓	2	Add	Add
5	Thando			Stenson		✓	4	Add	Add
6	Thandiwe			Keller		✓	3	Add	Add
7	Zodwa			Lopez		✓	4	Add	Add
8	Siyanda			Lord		✓	2	Add	Add

Figure 4.1-1. “Network details” page

4.2 Managing Gateway details

The ‘Gateway Details’ page (Fig. 4.2-1) covers all gateway (WIB-Client) related functionality such as setting up new gateways, modifying and deleting existing gateways, managing traffic shaping buckets on the gateway etc. Each gateway represents one Azotel WIB-Client. There are no limits on the number of gateways supported for any one operator. Table 4.2-1 defines all the fields, buttons and dropdown menus that are defined for each gateway. All of these can be found in the ‘Gateway Detailed page (fig. 4.2.1-1), which can be accessed by clicking row details from gateway table (Fig. 4.2-1). Also it is worthwhile to mention, that for each row in table (for each gateway) buckets details (‘Table

View' button for selected WIB-C) and gateway graphs page ('Graphs View' button for selected WIB-C) can be accessed very easily. Bucket feature is connected to QoS mechanism built into Azotel solution and its setting up is covered in chapter 4.2.4. Graphs functionality, which is used for monitoring health status of gateways various parameters (CPU load, CPU temperature, traffic on each interface.. etc.), is covered in stats part of manual as links for each gateway are same as in stats page. It is important to know what does each field/entry/button means/does.

Note, that it's strongly advised to ask an Azotel engineer for support during these tasks, as improper configuration may seriously affect service provided to an Operator's end-customers.

	Field	Description	Mandatory	Format
Gateways	Name	Name of gateway, used for easy identification	Yes	Standard letters and or numbers
	WIB number	Dropdown menu with numbers of WIB clients assigned for particular operator. It assigns one WIB-Client per gateway position.	Yes	Dropdown menu
	Status	Dropdown menu with status of gateway: 1) active – gateway is turned on. Pushing out configuration, customer management, statistic and monitoring features are on 2) pending – gateway is still working (if connected to internet) but it is invisible from a SIMPLer perspective i.e. no configuration is pushed to the gateway. This can be useful to block further changes to a gateway, but it also cuts off statistics creation and the neth monitoring feature for that WIB-C.	Yes	Dropdown menu
	WIB Type	Description of the type of WIB used (Regular or Virtual)	Yes	Dropdown menu
	WIB group name	This field can be used to group WIBs together in a Multi-Homed network. For normal non-Multi-Homed networks, leave this blank. In Multi-Homed networks set this to the name of the group that the WIB belongs to. All WIBs in the group should have the same name. See section 8.4 for details.	No	Free format text
Network Details	Primary IP Address	The IP address of the WIB Client. For information and network health monitoring purposes only.	Yes	Must be valid IP Address.
	Upstream gateway	IP address of WIB-Client upstream gateway. For information and network health monitoring purposes only.	Yes	Must be valid IP Address.
	Secondary Gateway	IP address of the secondary upstream gateway, if used. For information and network health monitoring purposes only.	No	Blank or a valid IP Address.
	Primary DNS	IP address of WIBs Client upstream DNS. For information purpose only, as only Azotel engineers have access to change these IP settings.	Yes	Numbers and coma sign. Must be valid IP Address.

	Field	Description	Mandatory	Format
	Secondary DNS	Secondary DNS server used by operator. Used when generating IP settings for the customer.	Yes	Numbers and coma sign. Must be valid IP Address.
System Wide Blocked Ports	TCP	List of system wide blocked TCP ports. Use space sign to separate if more than one entry. There are two types of valid entries, that can be used on this list: 1) One port to block (ex.: 145) 2) Port range to block (ex: 140:200) Example field entry: 21 50 150:300 10000:50000	No	Numbers and ‘:’ sign
	UDP	List of system wide blocked UDP ports. Use same syntax as for TCP field	No	Numbers and ‘:’ sign
	P2P Restricting	Dropdown list with two options: 1) <i>false</i> (Default) – p2p blocking/limiting turned off 2) <i>true</i> – p2p blocking turned on Note that if this is set to <i>false</i> p2p blocking/limiting may still be enabled for individual customers by setting P2P to <i>true</i> on the customers network details page (see chapter 5)	Yes	Non applicable
System Wide DNAT	Destination	The destination to match. Basically this is the IP address to which traffic goes from external network	No	Numbers an comma sign. Must be a valid IP address.
	Protocol (optional)	Optional field to specify protocol to redirect. When leaved blank the traffic will be redirected for both TCP or UDP.	No	<i>‘tcp’</i> or <i>‘udp’</i>
	Port(s) (optional)	The port(s) to match. Can be either one port or port range (x or X:y for range). When leaved blank gateway will redirect every port	No	Numbers and ‘:’ sign
	Forward to	The IP address that traffic is to be forwarded to	No	Numbers and comma sign. Must be valid IP address
	Add DNAT	Click on this button to accept the information entered in DNAT fields. The DNAT information will be cleared to allow details for another DNAT to be entered	No	Button
	Delete	Click on this button to DELETE DNAT information in the DNAT list. To delete the DNAT select the it from the list and click on the Delete button	No	Button
Handling of unknown clients	Whitelist	List of Host/IPs that will always be allowed to connect.	No	Standard IP Format
	HTTP Redirection	This is the URL, web requests from unknown clients will be re-directed to. Note: the hostname/IP should be added to the whitelist above also.	No	Standard Characters, Numbers and symbols in standard URL

	Field	Description	Mandatory	Format
				format.
Traffic shaping	Max bandwidth (kbps) Down / Up	Maximum bandwidth (throughput) that can be used by all traffic going through the WIB-Client. Useful, when having WIB-C connected in parallel with other devices to one internet feed and there is a need to leave some guaranteed bandwidth for the rest. Value entered in that field is in kbps (1Mbps = 1024kbps, 8Mbps = 8192kbps). Separate Down and Up rates may be specified. If the Up rate is omitted, or set to 0, the WIB-C will default to using the Down rate in both directions.	Yes	Numbers
	Default rate (kbps) Down / Up	Default speed rate used when customer doesn't have any bucket details assigned. Separate Down and Up rates may be specified. If the Up rate is omitted, or set to 0, the WIB-C will default to using the Down rate in both directions.	Yes	Numbers
	MASQ uplink rate Down / Up	Maximum uplink rate for users that are behind MASQUARADE (ones that don't have public IP, but are using routing mechanism built into WIB Client). This setting overrides individual customer setting if its value exceeds that defined here. Separate Down and Up rates may be specified. If the Up rate is omitted, or set to 0, the WIB-C will default to using the Down rate in both directions.	Yes	Numbers
	P2P Allowed Rate Down / Up	Determines the allowed P2P rate if P2P blocking is enabled on the WIB. Setting this to 0 will cause the P2P traffic to be blocked, while setting it to a non-0 number will allow P2P traffic at up to the given rate on the WIB-C as a whole. Separate Down and Up rates may be specified. If the Up rate is omitted, or set to 0, the WIB-C will default to using the Down rate in both directions.	Yes	Numbers

Table 4.2-1. "Gateway Details" config page

The screenshot displays the Azotel SIMPLer interface. At the top, there's a login section with 'aleksandra' and 'Test: New label'. Below this is a navigation bar with tabs: Dashboard, Map, Customers, Maintenance, Invoices, Products, Network, Hotspots, VOIP, RADIUS, Tools, Settings, and a QuickSearch field. The 'Network' tab is selected, showing 'WIB (100) out of sync!' and 'Update WIB files'. The 'Gateway details' sub-tab is active, showing a table of gateway configurations. The table has columns: Gateway ID, Name, WIB number, Status, Active Subscribers, Subscribers License, Traffic Shaping Bucket, WIB routes, Graphs, and Info. Three gateways are listed: 1 (Noida, 100, active, 115 subscribers, 1000 license), 2 (RADIUS, 900, active, 4 subscribers, 10 license), and 3 (WIB144, 144, active, 1000 license). Each gateway has links for 'Table view', 'Routes View', and 'Graph view'. At the bottom, there's an 'Add' button.

Figure 4.2-1. "Gateway details" page

4.2.1 Adding gateway

When adding a gateway, be sure that the WIB-Client has already been configured properly by an Azotel engineer.

Steps:

- 1) Select the 'network' tab from main SIMPLer menu to access network page
- 2) Select 'Gateway Details' from submenu – see Fig 4.2-1-1
- 3) Click 'Add new entry'
- 4) Fill out all information on 'Add New Gateway' page (Figure 4.2.1-1). When having problems, please refer to table 4.2-1
- 5) Click 'Add' Gateway button to confirm gateway details

The screenshot shows the SIMPLer web interface. At the top, there's a navigation bar with the 'azotel' logo and 'SIMPLer' logo. The user is logged in as 'aleksandra' with the role 'Test: New label'. The 'Gateway Details' tab is selected. The main content area shows the 'Add a New Gateway' form. The form is divided into two sections: 'Gateway Static Settings' and 'Network Details'.

Gateway Static Settings:

- Name:
- WIB number:
- Status:
- WIB Type:
- Customer Bandwidth Usage:
- WIB group name:

Network Details:

- Public IP address:
- Upstream gateway:
- Secondary gateway:
- Primary DNS:
- Secondary DNS:

RADIUS Server

Authentication Module Enabled ☐ ?

Authorization Module Enabled ☐ ?

Accounting Module Enabled ☐ ?

Override Operator Default Radius Server ☐ ?

Send COA / Disconnect Packets to NAS ☐ ?

COA / Disconnect Packets: Suppress username ☐ ?

COA / Disconnect Packets: Calling Station ID ☐ ?

COA / Disconnect Packets: NAS Identifier ☐ ?

COA / Disconnect Packets: Use Realm as Username ☐ ?

Radius Server IP Address ?

Radius Server Database ?

Radius Server Database Type ?

Radius Server Username ?

Radius Server Password ?

Override Operator Default Accounting Database ☐ ?

Accounting Database IP Address ?

Accounting Database Name ?

Accounting Database Type ?

Accounting Database Username ?

Accounting Database Password ?

Equipment Access

Override operator defaults ☐ ?

Equipment Username ?

Equipment Password ?

SNMP Community Name ?

? ?

WIB Gateway Dynamic Configuration ?**System wide blocked ports**

TCP ?

UDP ?

P2P Restricting ?

System wide DNAT

Destination ?

Protocol (optional) ?

Port(s) (optional) ?

Forward To ? ?

?

Handling of unknown clients

Whitelist ?

HTTP Redirection ?

Nprobe (netflow) Options

Nprobe Enabled ☐ ?

Nprobe Interfaces ?

Nprobe Custom Command Line ?

Nprobe Server IP Address ?

Nprobe Server Port ?

Nprobe Lifetime ?

Nprobe Idle Lifetime ?

Nprobe Emit Flows ?

Nprobe Hash Size ?

Figure 4.2.1-1. “Add a new gateway” page

4.2.2 Deleting gateway

There is also the possibility to delete a gateway. *As always, extreme care is required when dealing with Gateway configs as many end-customers can easily be impacted.*

Steps:

- 1) Select the ‘network’ tab from the main SIMPLer menu to access network page
- 2) Pick ‘Gateway Details’ from submenu – see Fig 4.2-1.
- 3) Find a Gateway which you would like to change and click it’s name to access ‘modify gateway’ page (fig 4.2.3-1)
- 4) Click ‘Delete’ Gateway button to remove that gateway from the system

4.2.3 Modifying gateway



Login: **aleksandra**
 WISP: **Test: New label**
 Gateway Details

Recently Viewed Customers

Logout

WIB (100) out of sync!

Update WIB files

Inbox (3)



Dashboard
 Map
 Customers
 Maintenance
 Invoices
 Products
 Network
 Hotspots
 VOIP
 RADIUS
 Tools
 Settings
 QuickSearch ...

Sites details
 Base Stations details
 Equipment details
 Gateways details
 Interface details

Modify a Gateway

Gateway Static Settings

Name ?

WIB number ?

Status ?

WIB Type ?

Customer Bandwidth Usage ?

WIB group name ?

Network Details

Public IP address ? /

Upstream gateway ?

Secondary gateway ?

Primary DNS ?

Secondary DNS ?

RADIUS Server

Authentication Module Enabled ☐ ?

Authorization Module Enabled ☐ ?

Accounting Module Enabled ☐ ?

Override Operator Default Radius Server ☐ ?

Send COA / Disconnect Packets to NAS ☐ ?

COA / Disconnect Packets: Suppress username ☐ ?

COA / Disconnect Packets: Calling Station ID ☐ ?

COA / Disconnect Packets: NAS Identifier ☐ ?

COA / Disconnect Packets: Use Realm as Username ☐ ?

Radius Server IP Address ?

Radius Server Database ?

Radius Server Database Type ?

Radius Server Username ?

Radius Server Password ?

Override Operator Default Accounting Database ☐ ?

Accounting Database IP Address ?

Accounting Database Name ?

Accounting Database Type ?

Accounting Database Username ?

Accounting Database Password ?

Equipment Access

Override operator defaults

☐ ?

Equipment Username ?

Equipment Password ?

SNMP Community Name ?

[Back](#)[Reset](#) ?[Update](#) ?**WIB Gateway Log Files ?**[Traffic shaping Buckets](#)System Messages file: [/var/log/messages](#)Daemon Log file: [/var/log/daemon.log](#)DHCP leases file: [/var/db/dhcpd.leases](#)System Log file: [/var/log/syslog](#)*Note: This gateway cannot be deleted (existing entries in the Customers table)***WIB Gateway Dynamic Configuration ?****System wide blocked ports**

TCP ?

UDP ?

P2P Restricting ?

false ☐**System wide DNAT**

Destination ?

Protocol (optional) ?

Port(s) (optional) ?

Forward To ?

[Add DNAT](#) ? [Delete](#) ?**Handling of unknown clients**

Whitelist

 ?

HTTP Redirection

 ?**Traffic shaping**

Max bandwidth (kbit/s)

Down: Up: ?

Whitelist rate (kbit/s)

Down: Up: ?

Mgmt rate (kbit/s)

Down: Up: ?

P2P allowed rate (kbit/s)

Down: Up: ?

Top Level Traffic Shaping

☒ ?**DHCP**

Custom DHCP Config

?

DHCP Adjacent WIBs

 ?

Nprobe (netflow) Options

Nprobe Enabled	☐	?
Nprobe Interfaces		?
Nprobe Custom Command Line		?
Nprobe Server IP Address		?
Nprobe Server Port		?
Nprobe Lifetime		?
Nprobe Idle Lifetime		?
Nprobe Emit Flows		?
Nprobe Hash Size		?

Figure 4.2.3-1. “Modify a gateway” page

On the ‘modify a gateway’ page there are four very important settings that every operator has to be aware of as those are affecting service provided:

- 1) System wide blocked ports – ports that can be blocked on each gateway. Can be very useful for some operators
- 2) System wide DNAT – forwarding specified ports for specified IP address to another IP
- 3) Gateway level traffic shaping – general traffic shaping settings
- 4) Traffic Shaping buckets – traffic shaping categories, which are assigned to customers later

To add/modify a gateway, fulfil the following steps:

- 1) Select ‘network’ tab from main SIMPLer menu to access network page
- 2) Select ‘Gateway Details’ from submenu – see Fig 4.2-1
- 3) Find a Gateway which you would like to change and click the name to access ‘modify gateway’ page (Fig 4.2.3-1)
- 4) Modify fields
- 5) Click ‘Update Gateway’ button to apply changes in SIMPLer

4.2.4 Gateway traffic shaping buckets

Azotel WIB-Clients have a Quality of Service mechanism based in which allows bandwidth to be allocated to clients in a flexible and fair way. The basic concept of this solution is a “bucket” theory. At the highest level, there are gateway limits, which are ‘max bandwidth’, ‘default rate’, ‘MASQ uplink rate’ (covered in Section 4.2.3 part of this manual). On the lower level there are customer “buckets” that further divide the available bandwidth defined at the higher level in a static way. The key when it comes to setting a “bucket” is it’s maximum bandwidth. There are three possible scenarios for using the bandwidth available to a WIB-Client:

- 1) Not all of the available bandwidth is allocated i.e. the sum of all the individual bandwidth “buckets” is smaller than the overall WIB-Client limit. This approach guarantees availability of bandwidth per “bucket”. The remaining bandwidth will not be used. This sort of situation is common in the beginning when an Operator doesn’t have many customers and decides to offer a service which will not degrade as their network grows. [Of course the Operator may also choose a different marketing approach].
- 2) All bandwidth is allocated to buckets i.e. the sum of all the individual bandwidth buckets is exactly the same as the overall WIB-Client limit. This approach guarantees good usage of bandwidth and its full availability per bucket. The approach allows an operator to guarantee throughput on every bucket at all times, and is the ideal configuration when selling dedicated bandwidth services.
- 3) All bandwidth is oversubscribed i.e. sum of the individual buckets is greater than the higher limit put on WIB-Client. This guarantees best usage of available bandwidth, but in certain situations (when the network usage is very heavy) it may lead to not providing expected bandwidth per “bucket”. When temporary usage exceeds feed capability, access to the feed is done via fair, statistical method by the WIB-Client. [In general Operators

should monitor Ethernet usage graphs on the WIB-Cs to ensure that they are not flat-lining. If flat-lining occurs, then the overall bandwidth level should be increased].

The Operator needs to define customer traffic shaping “buckets” for each Gateway. As there is a possibility to define uplink and downlink rates, the Operator has the option of offering symmetric as well as asymmetric services. In addition the Operator may indicate that a particular “bucket” is to be treated as a “Priority” bucket – priority buckets will be given bandwidth before other buckets and so can be used to allocate dedicated bandwidth to selected customers.

To access the subscriber bucket management page first use ‘network’ position from menu, then pick ‘gateway details’ from the submenu. Choose gateway, and click ‘traffic shaping buckets’. The ‘traffic shaping bucket’ page will be displayed as per Fig. 4.2.4-1.

azotel Login: **aleksandra**
WISP: **Test: New label**
Traffic Shaping Bucket

Recently Viewed Customers

Logout

WIB (100) out of sync! Update WIB files

inbox (3)

Dashboard Map Customers Maintenance Invoices Products Network Hotspots VOIP RADIUS Tools Settings QuickSearch ...

Sites details Base Stations details Equipment details Gateways details Interface details

Gateway Noida (wib 100)

ID: 1
Name: Noida
Type: regular
Status: active
Version: 20130124
Uptime: 2 days

	Download	Upload
Max Bandwidth	102400 kbps	102400 kbps
Whitelist rate	1024 kbps	1024 kbps
Mgmt rate	1024 kbps	1024 kbps
P2P rate	1024 kbps	1024 kbps

Back

Traffic Shaping Buckets

ID ?	Description ?	Downlink rate (kb/s) ? Burst rate (kbit/s) / Size (KByte)	Uplink rate (kb/s) ? Burst rate (kbit/s) / Size (KByte)	Throttling (%) ?	Usage - current (Throttled) ?	Priority ?	
8	Bus Premium	50000	10000		2 (0)		Customers Graphs
7	Bus Standard	25000	5000		1 (0)		Customers Graphs
10	Commercial Premium	100000	100000		0		Delete
9	Commercial Standard	100000	25000		0		Delete
2	Res Premium	15000	2000	9.96	0		Delete
1	Res Standard	5000	1500		112 (0)		Customers Graphs
5	Res Super	25000	2000	10	0		Delete
							Add

Back Update Buckets Table ?

Note : Buckets 'In use' cannot be deleted.

Figure 4.2.4-1. “Traffic Shaping Bucket” page

There are five information fields, which describe each of the traffic shaping buckets.

Field	Description	Mandatory	Format
Description	Bucket description used for identification. This is	Yes	Standard letters and or

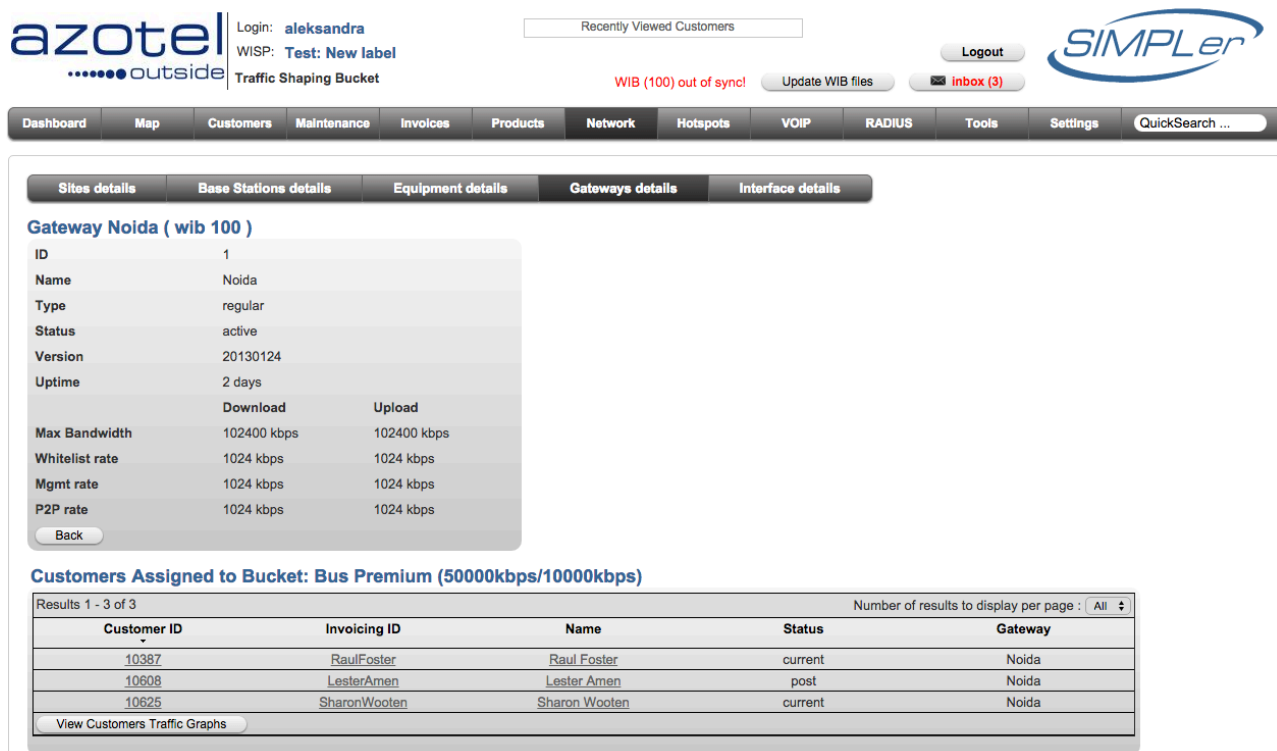
Field	Description	Mandatory	Format
	verbose name of bucket.		numbers and or special signs.
Downlink rate (kbits/s)	Bandwidth allocated per bucket to incoming traffic	Yes	Numbers
Uplink rate (kbits/s)	Bandwidth allocated per bucket to outgoing traffic	Yes	Numbers
Throttling (%)	This is the % restriction placed on the Downlink and Uplink rate. This is related to the SAND feature outlined in Section 9.1	No	Numbers.
Usage	Number of customers currently assigned to the particular bucket	N/A	Non editable
Priority	Indicates if this traffic-shaping bucket is a “priority” bucket. If so, the bucket will be allocated bandwidth before other non-priority buckets.	No	Checkbox

A customer is assigned to a traffic shaping bucket as described in Section 5 of this manual. The Usage field in the Traffic Shaping Bucket table informs the Operator about the number of users currently assigned to a particular bucket. Please note that each ‘current’ subscriber has to have a bucket assigned. Hence, each Gateway requires at least one bucket to be defined.

If there are subscribers assigned to a particular bucket, the Operator has access to additional information from the ‘traffic shaping bucket’ page (Fig. 4.2.4-1) i.e. under the ‘Customer’ and ‘Graphs’ links:

- 1) The ‘Customer’ link shows the current list of subscribers that are using the particular traffic shaping bucket - see Fig 4.2.4-2. This information is useful when chasing up bandwidth hoggers, identifying bucket problems, and rapid access to customer pages when customers are sorted on a per bucket basis.

[OPERATOR TIP: One option for dealing with bandwidth hogs is to place them all in the one bucket. By doing this, the Operator ensures that all bandwidth hogs share the same chunk of bandwidth, thereby limiting the impact to the majority of users who abide by the Fair/Acceptable Usage Policy.]



azotel Login: **aleksandra** WISP: **Test: New label** Traffic Shaping Bucket

Recently Viewed Customers

Logout Update WIB files **inbox (3)**

WIB (100) out of sync!

Dashboard Map Customers Maintenance Invoices Products **Network** Hotspots VOIP RADIUS Tools Settings QuickSearch ...

Sites details Base Stations details Equipment details **Gateways details** Interface details

Gateway Noida (wib 100)

ID	1	
Name	Noida	
Type	regular	
Status	active	
Version	20130124	
Uptime	2 days	
	Download	Upload
Max Bandwidth	102400 kbps	102400 kbps
Whitelist rate	1024 kbps	1024 kbps
Mgmt rate	1024 kbps	1024 kbps
P2P rate	1024 kbps	1024 kbps

Back

Customers Assigned to Bucket: Bus Premium (50000kbps/10000kbps)

Results 1 - 3 of 3 Number of results to display per page : All

Customer ID	Invoicing ID	Name	Status	Gateway
10387	RaulFoster	Raul Foster	current	Noida
10608	LesterAmen	Lester Amen	post	Noida
10625	SharonWooten	Sharon Wooten	current	Noida

View Customers Traffic Graphs

Figure 4.2.4-2. "Traffic Shaping Bucket - customers" page

- The 'Graphs' link leads to a page that shows last day traffic graphs for customers using the particular bucket. Having those graphs generated for each bucket gives the Operator a tool for searching for traffic usage patterns e.g. makes for easy identification of bandwidth hogs.

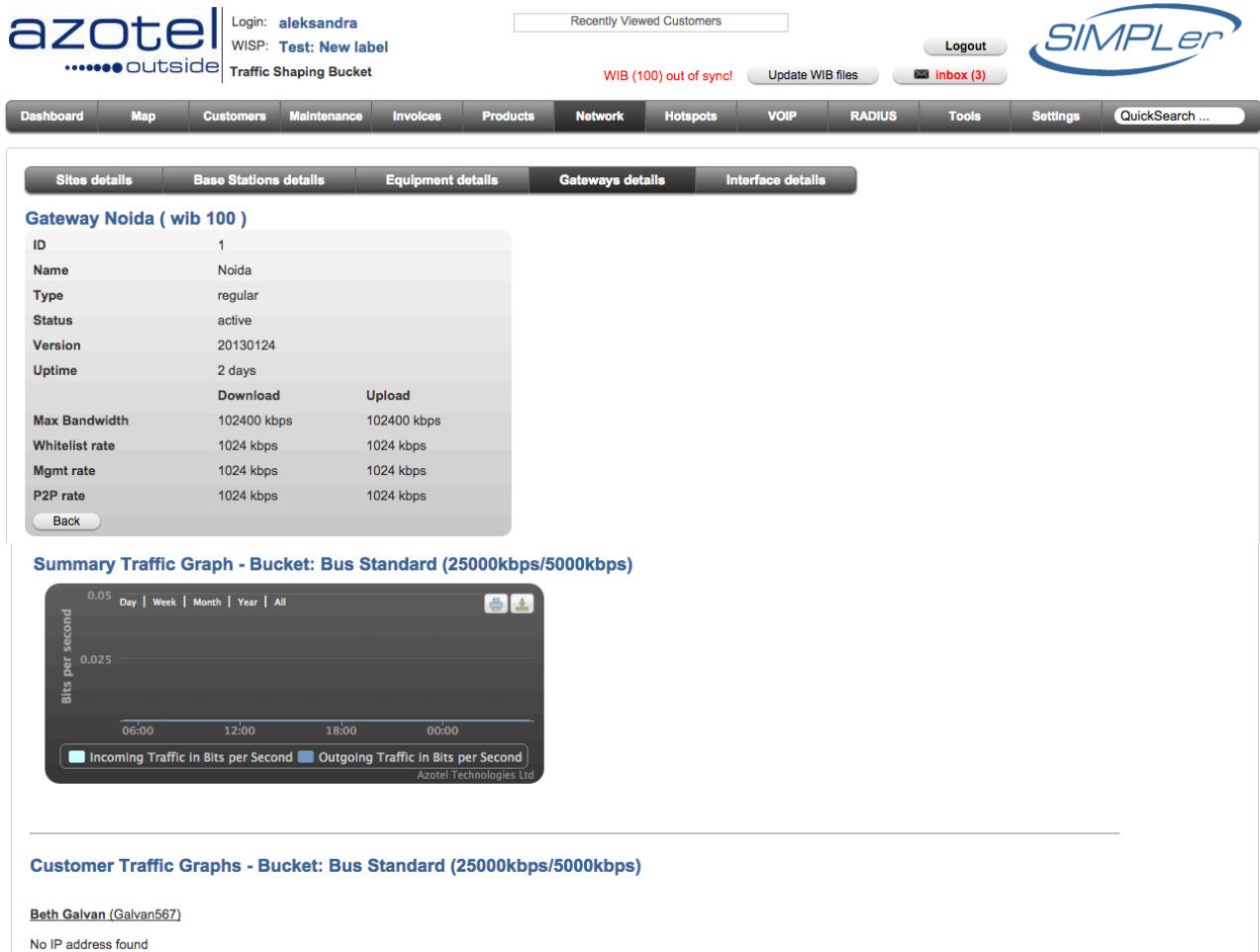


Figure 4.2.4-3. “Traffic Shaping Bucket - graphs” page

All editing tasks (changing bucket limits) of traffic shaping buckets can be done from the ‘traffic shaping bucket’ page. **Please do note, that changes made will be propagated ONLY after clicking ‘Update Buckets table’ button otherwise they will be lost.** NOTE: it’s good practice to go to the ‘tools’ page and run ‘update WIB files’ after making fundamental traffic shaping changes, as this will speed up the process of applying changes and will ensure that all changes are propagated to the WIB-C.

4.2.4.1 Adding traffic shaping bucket

To add a traffic shaping bucket on the ‘Traffic Shaping Bucket’ page (Fig 4.2.4-1) fulfil the following steps:

- 1) Fill in ‘Description’, ‘Downlink rate (kbits/s)’, ‘Uplink rate (kbits/s)’ fields.
- 2) If this is to be a priority bucket click the Priority checkbox
- 3) Click ‘Add’ button
- 4) Click ‘Update Buckets table’ to propagate changes

4.2.4.2 Modifying traffic shaping bucket

To modify traffic shaping bucket information on the ‘Traffic Shaping Bucket’ page (fig 4.2.4-1) fulfil the following steps:

- 1) Modify the following fields to desired state: 'Description', 'Downlink rate (kbits/s)', 'Uplink rate (kbits/s) fields', Priority checkbox
- 2) Click 'Update Buckets table' to propagate changes

4.2.4.3 Deleting traffic shaping bucket

To delete a traffic shaping bucket on the 'Traffic Shaping Bucket' page (fig 4.2.4-1) fulfil the following steps:

- 1) Click 'Delete' button on the right side of particular traffic shaping bucket
- 2) Click 'Update Buckets table' to propagate changes

4.2.4.4 General Guidelines for Traffic Shaping Buckets

1. The max bandwidth for the WIB should be set to a realistic value. For wibs with a dedicated feed you can just set it to the available bandwidth from the feed. There is no point in setting it higher than this, as doing so effectively hands over traffic shaping to the upstream provider, rather than allow the WIB-C to control it. In the case where a single feed is shared between multiple WIBs, then you need to allocate a portion of the bandwidth to each of the WIBs - you could initially allocate it based on the number of subs on each WIB and then monitor it - if one WIB is flat-lining and others are not, then you can redistribute some of the bandwidth.
2. Decide what level of contention is acceptable for your customers (business and home), and create sufficient buckets to add all the subs. For example, if you have 150 home subs and 20:1 is the max contention you want to have, then you would need 8 buckets for the home subscribers.
3. Allocate subs to the buckets in an essentially "random" fashion - there is no point in trying to second guess who is going to be on-line when.
4. Create a bucket for "heavy users" / abusers. Scan the bucket graphs every now and then and if you see any of them are consistently full. If so, have a look to see if any one customer is responsible. Move the abusing customer to the "heavy users" bucket where they can contend with other heavy users and not affect other customers.
5. If the WIB is not coming close to its bandwidth limit, then you can add a few more buckets and move some subs to them - effectively lowering the contention ratio.
6. If you are adding a new WIB-C to an area, in parallel to existing WIB-C(s), you need to initially just allocate a small portion of the available bandwidth (say 4-5Mb/s) to the new WIB-C, and take that away from the old WIB-C(s). Then as the number of subs on the new WIB-C increases, you should re-balance the bandwidth between the new WIB-C and the existing WIB-C(s). If you just plug in the new WIB-C with the max bandwidth set to high value, then it will get an unfair portion of the available bandwidth from the feed, as in this case the upstream provider will most likely just distribute the bandwidth equally between all of the WIB-Cs.
7. Allocating traffic shaping buckets per AP/colour may not make the best use of the bandwidth available in the radio network. For example if you setup 2Mb/s buckets, and if you have only 2-3 subs on an AP, those two subs will share the same 2Mb/s bucket, regardless of the fact that their AP can probably handle 7 or 14Mb/s aggregate. If the network is quiet, there is no reason to restrict those couple of subs to a portion of the 2Mb/s bucket when they could be getting 2Mb/s each, giving them a better experience.
8. By allocating based on AP/Colour you will have wildly varying contention ratios. For example in some areas you may just have just 3 subs in a 2Mb bucket, while in others you have up to 20. This probably means that people in more densely populated areas are at a disadvantage! These are exactly the subs you probably need to worry most about, as if there is going to be competition anywhere, then it is likely to be in these more densely populated areas (i.e. if you want to give anyone a lower contention ratio, then it should be to those in more densely populated areas!)
9. By allocating a large number of buckets, you effectively have no control over what bandwidth each sub is ultimately going to get - i.e. it is hard to provide any sort of quality of service guarantee. For example, if you had a feed of 14Mb/s, and 39 2Mb/s buckets setup, you get a possible demand of 78Mb/s, while the actual feed you have is only 14Mb/s! When demand gets high, the WIB-C will try to allocate the bandwidth as fairly as it can. The available bandwidth will be distributed to the buckets which are demanding bandwidth in ratio to their size, and those buckets will then distribute the bandwidth to the subs in those buckets. So, assuming that

at peak about 50% of the buckets are demanding bandwidth, then each would get $14/20 = 700\text{kb/s}$ to be distributed to the customers in the bucket. Again assuming that 50% of customers are demanding bandwidth, then that means that customers on the smaller APs might get the full 700kb/s , while those on the larger APs might just get 100kb/s ! Furthermore the actual bandwidth that the subs get during a download will fluctuate wildly, as they are effectively in contention with every other sub on the system! This is VERY inefficient for downloads, as the applications will spend their whole time re-adjusting their rates.

4.2.4.5 Network Scan: Ability to Exclude Equipment From Scan

There is a feature in the SIMPLer system that allows operators to disable scanning particular devices when the operator's networkscan is turned on. To exclude pieces of equipment from the network scan, go to the equipment details and modify "Exclude from network scan" option. See Fig. 4.2.4.5.-1.

Modify Equipment

Equipment Nickname ? Generate Equipment Nickname

IP address ? Generate Equipment IP Address

Port (optional) ?

SNMP Community Name ?

Description ?

Type ?

Status ?

Parent ?

Basestation at Site ?

Exclude from network scan ?

Maintenance Email ?

Serial Number ?

MAC Address ?

Fig. 4.2.4.5-1. Exclude from network scan

4.2.4.6 Reboot WIB-C From SIMPLer

There is a feature in SIMPLer that allows operators to reboot a WIB-C client remotely from SIMPLer. Up till now, operators had to use the WIB-C embedded GUI to reboot the WIB-C client - which had to be accessed remotely over a VPN tunnel.

In SIMPLer under "Tools" page a new "Reboot WIB" option has been added (as per the screenshot below) - that allows operator to reboot a WIB-C client remotely - provided the wib is online and can be reached from SIMPLer server. See Fig. 4.2.4.6-1.

System Tools

Select an action: **Reboot WIB** **Noida (100)**

Background Processes

Lock Type Date

No background processes

Submit

Fig. 4.2.4.6-1 Reboot WIB

Access to this functionality is controlled by *"tools"* -> *"reboot wib"* right, that can be set under each SIMPLer user's account - see screenshot below for reference. See Fig. 4.2.4.6-2.

Note: By default, all customers that had *"update wib"* right granted were automatically added the *"reboot wib"* right.

User Details

Main Details

User ID: emmatest

Mail: emmasadleir1@gmail.com

Full Name: Emma Sadleir

Status: (3) User

WISP: test: New label

Language: english

Phone:

Skype:

Other Details

Landing Page: Customer Search Page

Change Default Search Option: Standard (Name, Nickname, Invoicing ID)

Recently Viewed Customer List

Displayed By: Display Name

Numbers to be displayed: 4

Modify password

Password:

Confirm:

Sales Items

Value Added Reseller:

Master Agent:

Regional Sales Manager:

User Rights Template

Use as a Template ? ☐

Template Name:

Override User Rights with:

Back Reset Delete Update

User Rights

Clear All Rights

Select All Rights

Set Rights from Template:



attachments	access ☒	add ☒	modify not-owned ☒	billing information ☒
	network information ☒	maintenance ☒	sales tracking ☒	
billingissues	access ☒	send ☒		
credits	access ☒	add ☒	modify ☒	
customers	access ☒	add ☒	modify ☒	search ☒
	mass email ☒	spreadsheets ☒	creditcard ☒	bankdetails ☒
	view bank account ☒	privatenote ☒	modify subscriptions ☒	free service ☒
	view EUP password ☒	SAND - traffic ☒	SAND - invoice ☒	payment authorization codes ☒
	cc/echeck transaction log ☒	send sms ☐	refund ☒	
customfields	access ☒	modify ☒		
dashboard	access ☒	debtor aging ☒	cash flow projection ☒	revenue ☒
	arpu ☒	subscribers ☒	top20 ☒	tickets ☒
	spreadsheet ☒	form477 ☒	pipeline ☒	
financialtools	access ☒	cash flow ☒	lock database ☒	
gateway	WIB - access ☒	WIB - modify ☒	buckets - access ☒	buckets - modify ☒
	routes - access ☒	routes - modify ☒		
history	access ☒			
hotspots	access ☒	manage share plans ☐	manage hotspots ☒	manage products ☒
	add tokens ☒			

installers	access ☒	add ☒	modify ☒	
installertracking	access ☒	add ☒	modify ☒	list not-owned ☒
invoices	access ☒	delete ☒	mySIMPLer ☒	
lodgements	access ☒	delete ☒	modify processing date ☒	
maintenance	access ☒	send ☒	modify not-owned ☒	azotel internal ☐
	access attachments ☒	modify attachments ☒		
maintenancetype	access ☒			
map	coverage checker ☒			
network	access ☒	modCredentials ☒	site costs ☒	
notes	delete ☒			
prepayments	access ☒	add ☒	modify ☒	
products	access ☒	add ☒	modify ☒	delete ☒
quotes	access ☒	add ☒	modify ☒	delete ☒
radius	access ☒	add ☒	modify ☒	
referafriend	access ☒			
salesissues	access ☒	emails ☒	modify not-owned ☒	summary ☒
salestracking	access ☒	add ☒	modify ☒	see other members ☒
settings	payment gateways ☒	billing issue types ☒	cronjob - access ☐	customer groups ☒
	tax calculators ☒	trigger api ☐		

stats	access ☒			
tools	access ☒	autoprovision ☒	reboot wib ☒	update wib ☒
	update buckets ☒	update radius ☐	update services ☒	tcpdump ☒
	zip ☒			
users	access ☐	add ☒	modify other ☐	change operator ☐
	operator details ☒	translations ☐	goal ☒	rights templates ☒
	gcontact ☒	disable other ☐		
voip	access ☐			

Fig. 4.2.4.6-2. User's account – WISP Settings

4.2.4.7 Usage/Overage Report

A report has been added to the SIMPLer interface that gives operators an overview of any customer's download / upload and overages assigned for a specific period of time (See Fig. 4.2.4.7-1 and Fig. 4.2.4.7-2). This report contains the following features:

- 1) Ability to sort by specific column (by default customers are sorted based on full usage).
- 2) Ability to select specific dates NOTE: Report can be generated up to yesterday's date.
- 3) Ability to generate report of customers who has overages assigned only.
- 4) Ability to download spreadsheet.

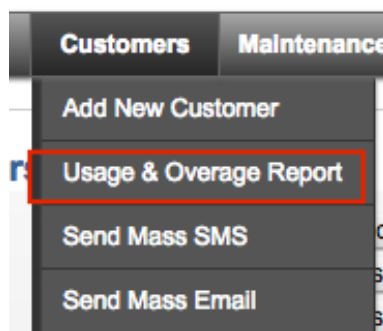


Fig. 4.2.4.7-1. Usage & Overage Report

 A screenshot of the 'Usage / Overage Report' generation interface in the SIMPLer system. The interface has a top navigation bar with tabs: Dashboard, Map, Customers, Maintenance, Invoices, Products, Network, Hotspots, VOIP, RADIUS, Tools, Settings, and a QuickSearch field. Below the navigation bar, the 'Usage / Overage Report' section is active. It contains two main panels: 'Dates' and 'Options'. The 'Dates' panel has 'From Date' and 'To Date' fields, both set to September 1, 2015, and September 21, 2015, respectively. A 'Generate' button is present, along with a note: 'NOTE: Report can be generated only up to yesterday's date'. The 'Options' panel has a 'Sort By' dropdown set to 'Usage (full)', a 'Customer Status' dropdown set to 'All', and three checkboxes: 'Overage Customer Only' (unchecked), 'Include Customer Subscription details' (unchecked), and 'Include Customer Site/Basestation/Gateway details' (unchecked). Below these panels is a table header for the report, with columns: Customer ID, Invoicing ID, Name, Status, Download (GB), Upload (GB), Blackout Download (GB), Blackout Upload (GB), and Overages (GB).

Fig. 4.2.4.7-2 Usage. & Overage Report

4.2.4.8 Reset Usage for Specified Time

A new feature has been added to the SIMPLer system that allows users to reset customer's usage for a specified time period. Hitherto, it was possible to reset all usage for customers. Now, users can select periods where they wish to reset customer's usage and will subsequently be removed from database and graphs.

To reset usage for customer:

- 1) Go to the customer account
- 2) Scroll down to the "Customer Network Details" section. Under "Customer Usage Summary Graph" there is "Reset Usage..." button. Click it to display pop-up console.

Customer Network Details

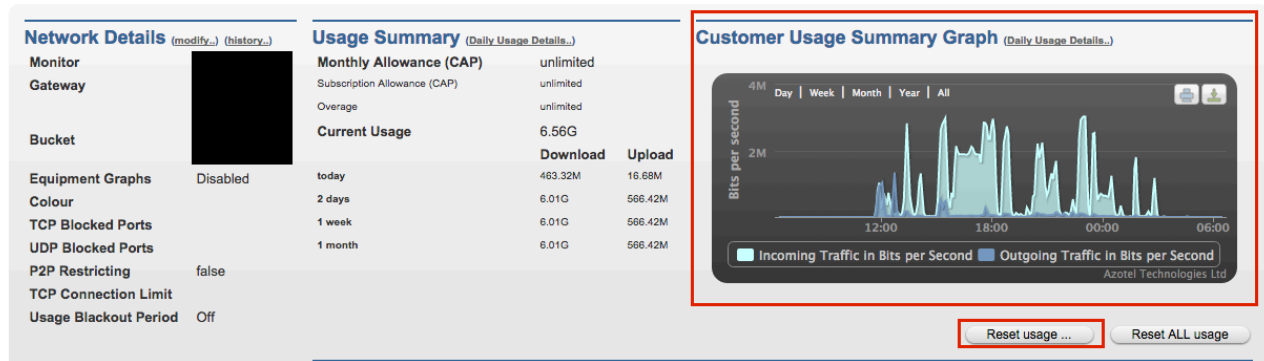


Fig. 4.2.4.8-1. Customer Usage Summary Graph

- 3) On pop-up console select period that usage should be reset.

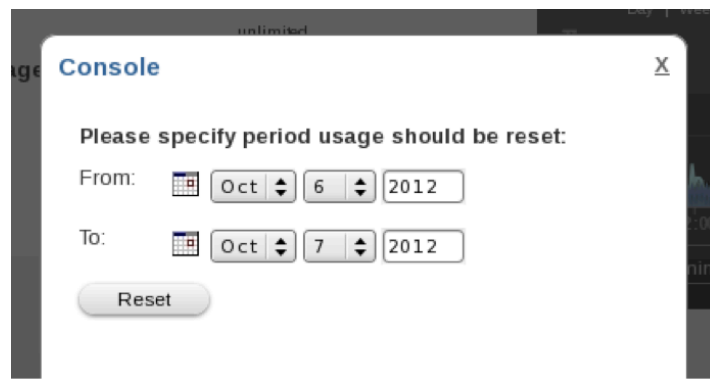


Fig. 4.2.4.8-2. Console

- 4) Customer Usage has been reset

johndoe Traffic Data

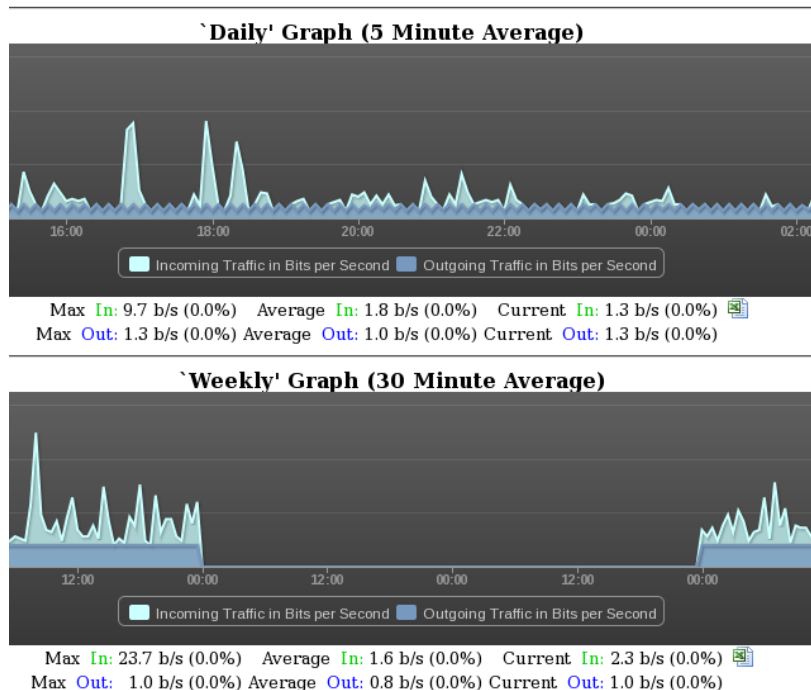


Fig. 4.2.4.8-3. Reset

4.3 Interfaces

Note: Interfaces for gateways (WIB) are normally set by an Azotel engineer and it's strongly advised not to change them without consulting Azotel staff.

To access the interfaces information page (fig. 4.3-1) use the 'network' tab from the main menu followed by 'interfaces details' from submenu. Interfaces are a definition of sub networks that are configured on the LAN interface of WIB clients. There are three types of interfaces:

- 1) Public – this interface defines external, public IP address ranges that are available for end customers (subscribers). The WIB-Client acts as a gateway for these (transparent to Layer 3).
- 2) Customer – this interface defines internal, local range of IP addresses which will be NATed to the Public IP of the WIB-Client. Note that all customers uplink speed is reduced to the gateway 'NAT upload' limit. Also note that those customers aren't easy to trace back without packet sniffing (TCPDUMP). The advantage of this approach is that no Public IP's are wasted on non relevant customer. Those addresses will also be accessible from anywhere on the internet by Operators who have configured VTUNs.
- 3) Canopy – this interface defines the Canopy network IP address ranges to allow the Operator access the Radio Network elements. These addresses will also be accessible from anywhere by operators who have configured VTUNs.

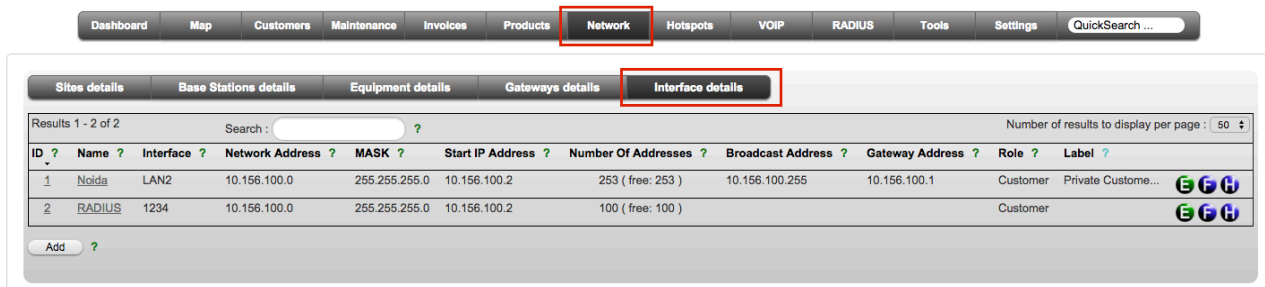


Figure 4.3-1 “Interfaces details” page

Field	Description	Mandatory	Format
Interface ID	Interface ID. Non editable field.	Yes	Number
Name	Name of gateway for which the interface is set up	Yes	Dropdown list
Interface	Name of interface for whom particular sub-network is defined. Normally for all WIB clients it's set up to 'eth1' as on this interface we use to hook up all customer side of network (eth0 is used to connect upstream broadband feed, eth2 is left for future features)	Yes	Letters and numbers. Must be valid interface name. Ex. 'eth1', 'tun1'
Network Address	Beginning address of interfaces sub-network	Yes	Numbers and comma sign. Must be valid IP address
MASK	Mask of sub-network (default is 255.255.255.0)	Yes	Numbers and comma sign. Must be valid Network Mask
Start IP Address	Starting address that will be assigned to network devices/customers.	Yes	Numbers and comma sign. Must be valid IP address
Number of addresses	Number of addresses that are available counting from Starting IP address	Yes	Number

Field	Description	Mandatory	Format
Broadcast address	IP address for broadcasting service	Yes	Numbers and comma sign. Must be valid IP address
Gateway address	IP address of Gateway	Yes	Numbers and comma sign. Must be valid IP address
Role	Role of interface. Choose from Canopy, Customer, Public (covered in Section 4.3)	Yes	Dropdown list
Label	Allows for additional descriptive information to be added about the interface	No	Standard Characters and Numbers.
Info	Supplies a list of free IP addresses	Yes	Icon

Table 4.3-1 “Interfaces details” table

4.3.1 Adding a new interface

To add a new interface, follow these steps:

- 1) Select ‘network’ tab from main SIMPLer menu to access network page
- 2) Select ‘Interface Details’ from submenu to access ‘Search for information interfaces’ page
- 3) Click the ‘Add’ new entry button
- 4) Fill out all information on ‘Add New Interface’ page (Figure 4.3.1-1).
- 5) Click ‘Add’ button to confirm interface details and to add new interface.

The screenshot shows the 'Add Interfaces' page in the SIMPLer application. The top navigation bar includes 'Dashboard', 'Map', 'Customers', 'Maintenance', 'Invoices', 'Products', 'Network' (highlighted), 'Hotspots', 'VOIP', 'RADIUS', 'Tools', 'Settings', and a 'QuickSearch...' field. Below this, the 'Interface details' sub-tab is selected. The form contains the following fields:

- Gateway Name ? (Dropdown menu showing 'Noida - wib 100[115 active : ↓')
- Interface ? (Text input field)
- Network Address ? (Text input field)
- Mask ? (Text input field)
- Start IP Address ? (Text input field)
- Number Of Addresses ? (Text input field)
- Broadcast Address ? (Text input field)
- Gateway Address ? (Text input field)
- Role ? (Dropdown menu showing 'Public')
- Label ? (Text input field)

At the bottom of the form are three buttons: 'Back', 'Reset', and 'Add'.

Figure 4.3.1-1. “Add a new interface” page

4.3.2 Deleting interface

To modify existing interface details:

- 1) Select the ‘network’ tab from main SIMPLer menu to access network page
- 2) Select ‘Interface Details’ from submenu to access ‘Interfaces Details’ page

- 3) Find an Interface which you would like to delete and click on the name to access 'modify interface' page
- 4) Click 'Delete' Interface button to remove particular interface from system

4.3.3 Modifying interface

- 1) Select the 'network' tab from main SIMPLer menu to access network page
- 2) Select the 'Interface Details' from submenu to access the 'Interface Details' page
- 3) Find an Interface which you would like to change and click it's name to access 'modify interface' page (Fig. 4.3.3-2)
- 4) Update interface information. Typical change would be increasing number of IP addresses to assign. When it comes to major changes (like changing IP subnet) it's best to set up a new interface rather than editing existing ranges.
- 5) Click 'Update' Interface button to propagate changes.

The screenshot displays the 'Modify Interfaces' page within the Azotel SIMPLer system. The top navigation bar includes tabs for Dashboard, Map, Customers, Maintenance, Invoices, Products, Network, Hotspots, VOIP, RADIUS, Tools, Settings, and a QuickSearch field. Below this, a secondary navigation bar shows 'Sites details', 'Base Stations details', 'Equipment details', 'Gateways details', and 'Interface details'. The main content area is titled 'Modify Interfaces' and contains a form with the following fields and values:

Field	Value
Gateway Name	Noida - wib 100[115 active :
Interface	LAN2
Network Address	10.156.100.0
Mask	255.255.255.0
Start IP Address	10.156.100.2
Number Of Addresses	253
Broadcast Address	10.156.100.255
Gateway Address	10.156.100.1
Role	Customer
Label	Private Customer IPs

At the bottom of the form, there are four buttons: 'Back', 'Reset', 'Update', and 'Delete'.

Figure 4.3.3-2. "Modify an interface" page

4.4 Site Details

The Site details page (Fig. 4.4-1) is a place to store geographical and primary contact information about all sites that are used by operators. Equipment and other important site information is also stored to assist with rapid resolution of future network issues. To access this page, select ‘network’ from the main menu. Each row in sites table represents one site and it is defined by following information:

Field	Description	Mandatory	Format
Site ID	Non editable field. ID of site, assigned by SIMPLer	Yes	Non applicable
Name	Site name. Good to be as descriptive as possible	Yes	Letters and or Numbers and or Special Signs
Gateway	Gateway with which particular site is connected	Yes	Dropdown menu
Contact	Contact details for accessing this site. It's god to have this field filled with telephone an contact person name	No	Letters and or Numbers and or Special Signs
Access information	Field for all Access information like address for example	No	Letters and or Numbers and or Special Signs
GPS Co-Ords	GPS Co-Ordinations (if they are known). May be good to have those filled in.	No	Letters and or Numbers and or Special Signs
Baser Stations	Non-editable field. Number of base stations that are deployed in this site.	-	Non applicable

Table 4.4-1 Site Details

Access to the site details/modify page is done by clicking the ‘Site ID’ or ‘Name’ field.

Dashboard

Map

Customers

Maintenance

Invoices

Products

Network

Hotspots

VOIP

RADIUS

Tools

Settings

QuickSearch ...

Sites details

Base Stations details

Equipment details

Gateways details

Interface details

Results 1 - 26 of 28

Search:

Site Type: All

Status: All

Number of results to display per page : 50

Site ID	Name	Common Name	Gateway	Contact	Access Information	GPS Co-Ords	Base Stations	Other Active Equipment	Stock
1	Mandla tr ui			Campbell		✓	6	Add	Add
2	Njabulo			Burke		✓	5	Add	Add
3	Phumlani			Osborne		✓	3	Add	Add
4	Simphiwe			Gans		✓	2	Add	Add
5	Thando			Stenson		✓	4	Add	Add
6	Thandiwe			Keller		✓	3	Add	Add

Fig 4.4-1 “Site Details” page

4.4.1 Adding site details

Steps:

- 1) Select the ‘**network**’ tab in main menu
- 2) Click the ‘Add’ link at the bottom of page to access the ‘Add Site’ page - Fig 4.4.1-1
- 3) Fill in the user data with relevant information

4) Click the 'Add' site button when finished

Dashboard
Map
Customers
Maintenance
Invoices
Products
Network
Hotspots
VOIP
RADIUS
Tools
Settings
QuickSearch ...

Sites details
Base Stations details
Equipment details
Gateways details
Interface details

Add Site

General

*Site Name

Common Name ?

Owner Name

Site Reference

Gateway name

Contact Name

Phone

Email

Access Details

Access Hours

Access Information

Monthly Lease Cost

Site Lease Duration

Address Details

Address - Street1

- Street2

- Town

- County

- Post Code

- State

- Country

Show Map

GPS LAT

GPS LONG

Access GPS LAT

Access GPS LONG

Other Details

Site Type

Site Status

Maintenance Interval

Next Maintenance Date

Auto-create Maintenance ticket

Tower Type

Substatus

PO Number

Tower Compliance Number

Minimum Stock Level

Height above ground [m]

Height allocation [m] ?

Frequency [MHz]

Custom Fields

Test

Back
Reset
Add

The screenshot shows the 'Add Site' page interface. At the top, there is an 'Add Notes' button. Below it is the 'Associated Equipment list' section, which includes a table with columns 'ID', 'Nickname', and 'Status'. The table is currently empty, with the message 'There is no equipment associated.' displayed. Below the table are two buttons: 'Add Equipment to Stock' and 'View Associated Equipment List'. Further down is the 'Add Attachments' button. The bottom section is titled 'Recently Created Maintenance Tickets' and contains the message 'No maintenance issues associated to the site' along with a 'Create a Maintenance Ticket' button.

Figure 4.4.1-1 “Add Site” page

4.4.2 Deleting site details

Steps:

- 1) Select the **‘network’** tab in main menu
- 2) Click the name of Site that is going to be deleted
- 3) In the ‘modify site details’ page (Fig. 4.4.3-1) click ‘delete site’ button

4.4.3 Modifying site details

Steps:

- 1) Select the **‘network’** tab in main menu
- 2) Click the name of Site that is going to be modified
- 3) Modify the appropriate fields (See table 4.4-1 for details on fields)
- 4) Click the ‘Update’ Site button when finished

The screenshot shows the 'Modify Site - 1' page. At the top is a navigation bar with tabs: Dashboard, Map, Customers, Maintenance, Invoices, Products, Network (selected), Hotspots, VOIP, RADIUS, Tools, Settings, and a QuickSearch field. Below the navigation bar are sub-tabs: Sites details (selected), Base Stations details, Equipment details, Gateways details, and Interface details. The main content area is titled 'Modify Site - 1' and is divided into two sections: 'General' and 'Access Details'. The 'General' section contains fields for Site Name (Mandla tr ui), Gateway name (dropdown), Common Name (?), Contact Name (Campbell), Owner Name, Phone (062 890 23 17), Site Reference, and Email (DonnaSCampbell@mailinator.com). The 'Access Details' section contains fields for Access Hours, Monthly Lease Cost (500), Access Information (text area), and Site Lease Duration.

Address Details

Address - Street1

Kappelergasse 13

Show Map

- Street2

- Town

Aarau

- County

- Post Code

5001

- State

- Country

GPS LAT

47.346267

Access GPS LAT

GPS LONG

8.536377

Access GPS LONG

Other Details

Site Type

Network

Tower Type

Lattice

Site Status

Production

Substatus

Maintenance interval

Semi-Annually

PO Number

Next Maintenance Date

Tower Compliance Number

Auto-create Maintenance ticket

Disable

Minimum Stock Level

Height above ground [m]

10

Frequency [MHz]

5400

Height allocation [m]

Custom Fields

Test

Back

Reset

Update

Update and Return to Site

Basestations list

ID	Equipment Nickname	Sector	Direction	Colour	Frequency	Installed by	Description
17	AP001	60	149	Mandia - AP001	5440	Metoo Inhere	
18	AP020	120	177	Mandia - AP020	5460	Metoo Inhere	
19	AP032	60	117	Mandia - AP032	5480	Abigale Sam	
56	BH018						
67	BH029						
69	BH031						

Delete associated basestations

Add Notes

Associated Equipment list

ID

Nickname

Status

There is no equipment associated.

Add Equipment to Stock

View Associated Equipment List

Recently Attached Files

ID	FileName	Date Added
1	Site_Agreement_Example_v001.doc	2011-11-21
2	images-1.jpg	2011-11-21
3	images-2.jpg	2011-11-21

View Associated Attachment List

Recently Created Maintenance Tickets

ID	Date Added	ReportedBy	Title	Description
102	2013-08-26	emma	test	test

View Associated Maintenance Ticket List

Figure 4.4.3-1 “Modify Site details” page

Azotel Confidential Proprietary
© Azotel Technologies Ltd 2024

4.5 Equipment details

The Equipment Details page (fig. 4.5-1) covers all equipment either working, in stock or broken. It can be accessed by selecting the ‘network’ tab from the main menu followed by ‘equipment details’. It contains equipment details such as IP & MAC addresses and status. There are many entries here. Some of them are entered by the Operator e.g. AP, BH and other core information. However, the majority will be populated automatically when going through the automated customer provisioning processes (outlined in chapter 5).

ID ?	Nickname ?	IP address ?	Description ?	MAC Address ?	Status ?	Type ?	Parent ?	Equipment Assignment ?
2	AP016	10.10.10.65	Motorola PMP 430	12:34:56:78:90:12	use	Canopy AP	no parent	BaseStation 1
3	AP028	10.10.10.77	Motorola PMP 430	1A:2B:3C:4C:5D:6E	use	Canopy AP	no parent	BaseStation 2
4	AP035	10.10.10.84	Motorola PMP 430		use	Canopy AP	no parent	BaseStation 3
5	AP017	10.10.10.66	Motorola PMP 430		use	Canopy AP	no parent	BaseStation 4
6	AP029	10.10.10.78	Motorola PMP 430		use	Canopy AP	no parent	BaseStation 5
7	AP036	10.10.10.85	Motorola PMP 430		use	Canopy AP	no parent	BaseStation 6
8	AP015	10.10.10.64	Motorola PMP 430		use	Canopy AP	no parent	BaseStation 7
9	AP027	10.10.10.76	Motorola PMP 430		use	Canopy AP	no parent	BaseStation 8

Fig 4.5-1. “Equipment details” page

Field	Description	Mandatory	Format
Equipment ID	Non-editable field. Unique ID of equipment, assigned by SIMPLer	Yes	Non applicable
Nickname	Equipment nickname. Name given to equipment. Note: There is a name generating mechanism in SIMPLer. Using ‘Generate equipment nickname’ link will take what has been written in nickname field and add a number at the end checking to be sure that such a name doesn’t exist in database. If Nickname field left blank when generating, nickname of the first equipment will be taken, or in the equipment list is blank, letter ‘A’ will be used as a base and there will be number added to it e.g. ‘A1’	Yes	Letters and or Numbers and or Special Signs
IP address	IP address of network equipment. Note that there is IP address creation mechanism. If ‘Generate equipment IP address’ button is pressed when there is nothing in the field, than SIMPLer will generate first free address from first entered Canopy interface sub network, otherwise it will take the entered IP address and will try to validate it. In case of failure (entered IP exists in database) it will try to find first free address from this range.	Yes	Numbers and comma letter. Must be a valid IP
Description	Description of the equipment. Can be any kind of information, that is about equipment, as there is no other field to put it in.	No	Letters and or Numbers and or Special Signs

Field	Description	Mandatory	Format
Serial Number	Serial number of the equipment. Useful when claiming warranty, searching for manufacturer reference.	No	Letters and or Numbers and or Special Signs
MAC Address	MAC address of the equipment. Will be used in future for MAC address authorisation feature.	Yes	Letters and or Numbers and or Special Signs
Status	Status of equipment: 1) Stock – equipment held in stock. New or old not used currently 2) Use – equipment in use. Deployed. 3) Fault – fault equipment, not used anymore	Yes	Dropdown menu
Type	Specifies Type of Equipment. At this stage this field will be used to specify configuration for SNMP polling.	Yes	Dropdown menu
Parent	Specified element that feeds this piece of equipment. This is an information only field.	No	Dropdown menu
Purchase Invoice Details	Optional field for purchase invoice information. For information purpose only	No	Letters and or Numbers and or Special Signs
CPE or basestations	Non-editable field. Show which user/base stations are connected with that particular equipment.	Yes	Non applicable

Table 4.5-1. “Equipment details”

4.5.1 Adding equipment

To add equipment:

- 1) Access ‘Equipment details’ (Fig. 4.5.-1) page by selecting the **‘network’** tab in main menu followed by **‘equipment details’** in submenu.
- 2) Click the ‘Add’ new equipment link at the bottom of page to access ‘Equipments’ page.
- 3) Fill in the equipment fields with the relevant information. Notice that there are two links titled: “Generate Equipment nickname” and “Generate Equipment IP address”. Those are helpers when generating Equipment Nickname and its IP address (covered in table 4.5.1-1).
- 4) Click ‘Add’ equipment button when finished.

Add equipment

Equipment Nickname ? [Generate Equipment Nickname](#) Select WIB: ? any WIB

IP address ? [Generate Equipment IP Address](#) Select IP Block: ? any CPE subnet

Port (optional) ?

SNMP Community Name ?

Description ?

Type ?

Status ?

Parent ?

Stored at Site ?

Maintenance Email ?

Serial Number ?

MAC Address ?

Purchase Invoice Details ?

Received By ?

Internal Group No ?

Equipment costs ?

Supplier ?

Supplier Order No ?

Receive Date ?

Equipment Note ?

DHCP Options ?

[Back](#) [Reset](#) [Add](#)

Equipment Username And Password ?

*Username	*Password	Notes
test123	test123	Default

[Add Blank Row](#)

Recently Created Maintenance Tickets ?

No maintenance issues associated to the equipment

[Create a Maintenance Ticket](#)

Figure 4.5.1-1 "New Equipment" page

4.5.2 Deleting equipment

There is the option in SIMPLer to delete equipment, but it's always better to keep a list of all equipment (even if not used anymore). To delete an entry from table:

- 1) Access the 'Equipment details' (Fig. 4.5-1) page by selecting the **'network'** tab from the main menu followed by **'equipment details'** in submenu
- 2) Click the name of the Equipment that is going to be deleted to access 'modify equipment details' page
- 3) In the 'Modify Equipment' page (Fig. 4.5.3-1) click 'Delete' equipment button

4.5.3 Modifying equipment

When there is a need to correct any particular equipment details, please follow these steps:

- 1) Access 'Equipment details' (Fig. 4.5-1) page by selecting the **'network'** position in main menu followed by **'equipment details'** in submenu
- 2) Click the name of Equipment that is going to be modified to access the 'Modify Equipment' page

- 3) Change equipment details that are on this page (Fig. 4.5.3-1)
- 4) Click the ‘update’ equipment button

Dashboard
Map
Customers
Maintenance
Invoices
Products
Network
Hotspots
VOIP
RADIUS
Tools
Settings
QuickSearch ...

Modify Equipment

Equipment Nickname ?
Generate Equipment Nickname

Select WIB: ?

IP address ?
Generate Equipment IP Address

Select IP Block: ?

Port (optional) ?

SNMP Community Name ?

Description ?

Type ?

Status ?

Parent ?

Basestation at Site ?

Assigned To Site On
Jan 07, 2015

Maintenance Email ?

Serial Number ?

Equipment costs ?

MAC Address ?

Supplier ?

Purchase Invoice Details ?

Supplier Order No ?

Received By ?

Receive Date ?

Internal Group No ?

Equipment Note ?

DHCP Options ?

Back
Reset ?
Update ?
Delete ?

Add Blank Row ?

Display Equipment webpage ?

View Associated Maintenance Ticket List

Figure 4.5.3-1 “Modify Equipment” page

4.6 Base Stations

Base Stations is used to capture all equipment that is located at a Base Station e.g. Access Points, Backhuals, Servers, Switches, Concentrators etc. It was designed to store information relating to the radio network, but it can be used for other base equipment which is non-radio related. The benefit of this database is ready access to important equipment, and the fact that each base station is automatically placed under network health monitoring, email + SMS alerting (if this feature is enabled by the Operator). Note that having base stations information filled out correctly can also make planning of radio network easier and provides important information when searching for a site details (or radio interface details) in case of failure. Managing Base Stations is fairly straightforward and it should be done each time new radio infrastructure is added. Base Station Detailed page, containing information covered in table 4.6-1, can be accessed by clicking link in a table row that is describing the base station that we are interested in.

Dashboard

Map

Customers

Maintenance

Invoices

Products

Network

Hotspots

VOIP

RADIUS

Tools

Settings

QuickSearch ...

Sites details

Base Stations details

Equipment details

Gateways details

Interface details

Results 1 - 50 of 76

Search :

Number of results to display per page :

ID ?	Equipment Nickname ?	IP ?	Site Name ?	Sector ?	Direction ?	Colour ?	Freq ?	Monitoring Gateway ?	Monitor ?	Description ?	Note ?
1	AP016	10.10.10.65	Amahle	60	22	Amahle - AP016	5705	wib 100	Yes	Motorola PMP 43...	E G H C
2	AP028	10.10.10.77	Amahle	120	94	Amahle - AP028	5745	wib 100	Yes	Motorola PMP 43...	E G H C
3	AP035	10.10.10.84	Amahle	60	251	Amahle - AP035	2400	wib 100	Yes	Motorola PMP 43...	E G H C
4	AP017	10.10.10.66	Bheka	120	178	Bheka - AP017	5740	wib 100	Yes	Motorola PMP 43...	E G H C
5	AP029	10.10.10.78	Bheka	120	323	Bheka - AP029	5760	wib 100	Yes	Motorola PMP 43...	E G H C
6	AP036	10.10.10.85	Bheka	360	58	Bheka - AP036	5830	wib 100	Yes	Motorola PMP 43...	E G H C
7	AP015	10.10.10.64	Dingane	60	155	Dingane - AP015	5800	wib 100	Yes	Motorola PMP 43...	E G H C

Figure 4.6-1 "Base Stations" page

Field	Description	Mandatory	Format
Equipment nickname	Nickname of equipment, that has a base station function	Yes	Dropdown list
IP	IP address assigned to Access point (Base station) during installation	Yes	Standard IP format.
Equipment detail fields	Non-editable equipment detail fields. With every equipment chosen, those fields are updated with relevant information	-	Non applicable
Site name	Name of the site in which the base station is installed	Yes	Dropdown list
Sector	Optional field, that can be used for example in radio planning	No	Numbers
Direction	Optional field, that can be used for example in radio planning	No	Characters and or numbers
Colour	Optional field, that can be used for example in radio planning	No	Characters and or numbers
Frequency	Optional field, that can be used for example in radio planning	No	Numbers
Monitoring Gateway	Gateway used to monitor the equipment	Yes	Dropdown menu
Monitor	This specifies the monitoring status. SIMPLer will use this field to create monitoring field. This field overrides equipment status (Even if	Yes	Dropdown menu

Field	Description	Mandatory	Format
	equipment is not in use state, it will still be monitored, it will still be monitored if set to Monitor or Monitor + SMS .		
Installed by	Name of person (may be with contact details) who installed the base station	No	Characters and or numbers and special signs

Table 4.6-1 Base Station details

4.6.1 Adding Base Station

- 1) To access the 'Base Stations' page (Fig. 4.6-1), select the '**network**' tab in main menu followed by '**Base Station details**' in submenu
- 2) Click 'Add' new base station link at the bottom of page to access 'Equipment' page.
- 3) Choose an equipment from dropdown list, which is used as a base station – see Fig. 4.6.1-1.
- 4) Choose a site name from dropdown list where base station equipment resides.
- 5) Fill in base station data with relevant information.
- 6) Select the 'Add base Station' button when finished.

The screenshot shows the 'Add Base Station' form in the Azotel interface. The form is organized into two columns. The left column contains labels for various fields, each followed by a question mark icon. The right column contains the corresponding input fields. The 'Equipment nickname' field is a dropdown menu with 'CPE3' selected. The 'Equipment Status' field is a dropdown menu with 'stock' selected. The 'Site name' field is a dropdown menu with 'Amahle' selected. The 'Monitoring Gateway' field is a dropdown menu with 'Noida - wib 100[115 active sub(s)]' selected. The 'Monitor' field is a dropdown menu with 'Monitor (Email and SMS alerts)' selected. The 'Sector', 'Direction', 'Colour', 'Frequency', and 'Installed By' fields are text input fields. There are also 'Add a new equipment' and 'retrieve' buttons.

Figure 4.6.1-1. “Add Base Station” page

4.6.2 Delete Base Station

If a particular base station is not needed anymore and it’s details are no longer of use there is the option to delete it. However, it is strongly advised to keep a track of all base stations that were deployed for history tracking purpose.

Steps to delete a base station:

- 1) To access the ‘Base Stations’ page (Fig. 4.6-1), select the **‘network’** tab in main menu followed by **‘base station details’** in submenu
- 2) Click the name of Base Station that is going to be deleted to access the ‘Modify Base Station’ page (Fig. 4.6.2-1)
- 3) In the ‘Modify Base Station’ page (Fig. 4.6.2-1), click the ‘Delete’ base station button

4.6.3 Modifying Base Station

Keeping base station information current is important to enable rapid resolution of network issues.

Steps to modify base station details:

- 1) To access the ‘Base Stations’ page (Fig. 4.6-1), select the **‘network’** tab in main menu followed by **‘base station details’** in submenu
- 2) Click the name of Base Station that is going to be deleted to access ‘Modify Base Station’ page (Fig. 4.6.2-1)
- 3) Adjust values that are on this page
- 4) Click the ‘Update Base Station’ button

Dashboard
Map
Customers
Maintenance
Invoices
Products
Network
Hotspots
VOIP
RADIUS
Tools
Settings
QuickSearch ...

Modify Equipment

Equipment Nickname ?
Generate Equipment Nickname

Select WIB: ?

IP address ?
Generate Equipment IP Address

Select IP Block: ?

Port (optional) ?

SNMP Community Name ?

Description ?

Type ?

Status ?

Parent ?

Basestation at Site ?

Maintenance Email ?

Serial Number ?

Equipment costs ?

MAC Address ?

Supplier ?

Purchase Invoice Details ?

Supplier Order No ?

Received By ?

Receive Date ?

Internal Group No ?

Equipment Note ?

DHCP Options ?

Back
Reset ?
Update ?
Delete ?

Equipment Username And Password ?

*Username	*Password	Notes
test123	test123	Default

Add Blank Row ?

Display Equipment webpage ?

Basestations List ?

ID	Site Name	Site ID	Colour	Frequency	Notes
31	Sizwe	11	Sizwe - AP023	5800	

Recently Created Maintenance Tickets ?

No maintenance issues associated to the equipment

Create a Maintenance Ticket ?

Figure 4.6.3-1 “Modify Base Station” page

4.6.4 Clear CPE Colours Not Assignend to Basestation

There is a new feature added to SIMPLer that allows to enable a daily (overnight) maintenance job to be run on operator database that will check customer CPE records (equipment assigned to customer) and reset to default colours that are not assigned to any basestations.

The feature can be enabled from a 'Daily Database maintenance' section of 'Settings->Modify WISP' page (Fig. 4.6.4-1).

Customer Fields Validation

Zip / Post Code: Format Validation ?

Zip / Post Code: Require ?

Daily Database Maintenance

Clear CPE colours not assigned to basestations ?

End User Portal Passwords

Activate Password / "End User Portal" and automatically email password to customer ?

Figure 4.6.4-1 'Daily Database maintenance' section of 'Settings->Modify WISP' page

4.7 Peer-to-Peer (P2P) handling

4.7.1 Background

Peer-to-peer (P2P) file sharing is a significant problem for all networks. Left unchecked it can consume large amounts of bandwidth, in both the upstream and downstream directions, affecting the service of the P2P user and other users on the network. In addition, most P2P programs automatically make any downloaded files available to other users to upload – this can fill a customer’s upstream data allowance, resulting in poor network performance. Very often when a customer complains of poor network performance you will find that they have a P2P program running and it is flooding their upstream connection.

In the past P2P programs tended to operator on fixed TCP/UDP ports, making blocking them simply a matter of blocking those ports. However, more recent P2P programs circumvent this by operating on a variety of dynamically assigned ports. This makes it impossible to block P2P traffic simply by blocking specific ports. To address this programs have been developed which analyse the flow of data in real time to identify traffic which is P2P related (they operate in a similar fashion to virus scanners which look for “signatures” in the data). While this is not 100% effective, it does identify most P2P traffic. The P2P “filters” are under constant development making them better and better at identifying P2P traffic.

4.7. P2P handling on the WIB-C

The WIB-C gives the operator the following options for dealing with P2P traffic:

1. Take no action (i.e. allow all P2P traffic),
2. Block all P2P traffic,
3. Rate limit all P2P traffic,
4. Block P2P traffic for specific customers
5. Rate limit P2P traffic for specific customers

Which action the WIB-C takes depends on three flags: 1) the P2P flag on the Gateway Details page (chapter 4.2), 2) the P2P Allowed Rate on the Gateway Details page (chapter 4.2) and 3) the P2P flag on the customer’s Network Details page (chapter 5.1). The following table summarises the interaction of these three:

Gateway P2P flag	Gateway P2P Allowed Rate	Customer P2P flag	WIB-C action
False	Any value	False	Allow all P2P traffic
True	0	Any value	Block all P2P traffic
True	> 0	Any value	Rate limit all P2P traffic
False	0	True	Block P2P traffic for specific customer
False	> 0	True	Rate limit P2P traffic for specific customer

When “rate limiting” is applied, the identified P2P traffic is routed to a separate P2P traffic shaping bucket (this is graphed on the gateway graphs page). Two things should be noted about the P2P traffic shaping bucket:

Firstly, the P2P bucket is a "low priority" bucket - that means that if the WIB hits its traffic limit, the P2P bucket will be last to be served, and so it is likely that the data rate through the bucket would drop (so, the order in which B/W is allocated is: 1) "priority" traffic shaping buckets, 2) "normal" traffic shaping buckets, 3) P2P bucket).

Secondly, as the P2P bucket is independent of the customer’s traffic shaping bucket, it could lead to a situation where a customer can actually upload/download at higher than their normal rate. Say the customer is in a 1Mb/s bucket and the P2P bucket is also 1Mb/s, and suppose that traffic is very light on the WIB-C (i.e. not much other P2P or downloads happening). Now if the customer started doing a regular download (e.g. pulling an ISO image from somewhere) and

also started doing a P2P download (e.g. bittorrent) at the same time, the regular download will come from the customers normal bucket and the P2P download will come from the P2P bucket, giving a total download rate of 2Mb/s! in practice though this is not likely to happen very often...most likely the P2P bucket will be shared with several other customers, and so only a fraction of the 1M/s will be available, and the customers regular bucket is also likely to be shared, giving an overall download rate of less than the max. However there might be times where you see a customer's graph pop over their "limit" or they might appear to be getting more than they should on the top-10 display.

5 Customers

5.1 Introduction

The Azotel SIMPLer platform is by definition, an end-customer oriented solution. It delivers tools to simplify tasks such as: customer handling, error addressing, provisioning and billing, chasing up customer related problems etc. All important information regarding customers and the network is readily accessible via the 'customers' page from the main menu - see Fig 5-1. Functionality regarding customer management has been split up into three categories:

- 1) Manage customers – basic functionality such as adding new customer, getting list (in excel format) of currently active customers, changing Boolean fields such as monitoring, invoicing, RSSI and Jitter status for all customers
- 2) Maintenance tasks – functionality connected with all customer related issues. Customer maintenance and Installer notification email tool are two parts of equipment/network related problems solving/notifying utility. Billing Issues and Send Billing Issues tool are two parts of Invoices related problems solving/notifying utility. Mass mail notification is a tool for sending emails to many customers filtered on specified parameter.
- 3) General – search form that is used for customer tracking purpose. Search can be performed using following customer details: name, nickname, invoicing id, type, status.

Note: That when the search field is left blank then the full customer list will be returned.

Figure 5.1-1. “Search for information about customers” page

Each customer profile is divided into five categories. This approach guarantees focusing on one sort of information at one time when entering data, and allows finding information quicker, when searching for it.

a) General Customer Details

Field	Description	Mandatory	Format
Name	Customer’s Name.	Yes	Standard letters and or numbers
Invoicing ID (Sage ID)	Unique ID used for Accounting package (e.g. SAGE). As recommended, it is an easily recognisable abbreviation of the customer name.	No	Standard letters or numbers only
Nickname	Unique ID used to identify the customer. As recommended, it is an easily recognisable abbreviation of the customer name. Can be, but doesn’t have to be equal to Invoicing ID. This nickname is used for network recognition of customer	Yes	Standard uppercase letters or numbers (Recommend it is no more than 15 characters)
Address – Street1	Address street/area details - line 1	Yes	Standard characters
Address – Street2	Address street/area details - line 2	Yes	Standard characters
Address – Town	Only use if necessary (in order to keep address compact on Invoice)	No	Standard characters
Address – County	Only use if necessary (in order to keep address compact on Invoice)	No	Standard characters
Address – Post Code	Postal Code	No	Standard characters
Address - Country	Country	No	Standard characters
Installation Address	Street, Town, Postcode and Country for Installation site. Use only if different than Billing address	No	Standard characters
GPS X & Y	GPS co-ordinates for Google Map integration.	No	Standard numbers and punctuations.

Field	Description	Mandatory	Format
Installation Area	Street, Town, Post Code and Country for installation site. Use only if different than billing address	No	Standard Characters and Numbers
Community Code	Specifies an identifier so that Operators can identify groups of customers according to their community code.	No	Standard Characters and Numbers
Status	Drop down menu to select the current status of the customer. Select the appropriate status based on the following criteria: Potential for customer whose details are to be entered in the database but who have not yet submitted a contract form. Current for customers who have been successfully connected and are active subscribers to the service. Post for previously connected customers who are no longer subscribers to the service or for customers who will be disconnected at a date in the future. When setting a customer to post, SIMPLer allows entry of a reason (for disconnecting) and a date (past, present or future). Contract for customers who have submitted a contract but are not ready for install yet. Waiting for install for customers whose details have been processed and are ready for site survey/installation. Installed indicates that installation is complete but provisioning information still needs to be sent to the customer. Survey failed for customers who cannot be connected due to a failed site survey Unused for invalid or obsolete record which can be deleted or overwritten Auto Provisioning will alter the status automatically and moving from some statuses to other will initiate automatic processes. See section 7, which describes Auto Provisioning, for details.	Yes	Dropdown list
Importance	Allows the Operator to specify a level of importance of the customer from a scale of 1 - 5	N/A	Dropdown Menu
Type	Drop down menu providing a list of customer types. Select the appropriate type based on the following criteria: Customer business for business customers. Customer home for home customers. Reseller - Ignore	No	Not applicable

Field	Description	Mandatory	Format
	Partner - Ignore. Supplier -Ignore. Competitor - Ignore. Gov - Ignore.		
Customer Tracking	Drop down menu proving a list of customer tracking options. Normal Debtor's Alert Disconnect Suspended	No	Dropdown menu
Marketing Code	Specifies an identifier under which customers can be grouped for the purpose of mass marketing communications.	No	Standard Characters, numbers and symbols
Marketing Emails	Specifies whether customer will receive Marketing Emails through the mass mail notification	No	Dropdown menu
VoIP Billing		No	Check box
Referral Co.	Person or company who referred the customer. Used to track referral payments if a referral payment applies	No	Standard Characters
Referral Fee Status	Describes the status of the referral fee. Due – The referral fee is still due Paid – The referral fee has been paid No Fee – No fee is due for referral	No	Dropdown menu
Referral Fee Amount	The amount that is due for the referral.	No	Standard Numbers
Initial Contact Date	Date when the first contact was made with the client in relation to providing the service	Yes	DD/MM/YYYY
Installation date	Date when the installation was completed at the customer's site. This field is automatically set when the customer status is moved to 'current'. It can also be edited manually if required.	Yes	DD/MM/YYYY
Start Date	Date when customer billing is to commence. This field is automatically set when the customer status is moved to 'current'. It can also be edited manually if required.	Yes	DD/MM/YYYY
Note	Field to enter free text notes relating to the customer	No	Free text
Private Notes	Field to enter free test notes relating to the customer. Information entered here will only be	No	Free text

Field	Description	Mandatory	Format
	displayed to users who have the 'private note' user rights enabled. Information entered here will not be included in installer/maintenance emails		

b) Contact Details

Field	Description	Mandatory	Format
Telephone	Primary telephone contact number	Yes	Standard Characters
Fax	Fax number	No	Standard Characters
Email	Email address for primary contact person	Yes	Standard Characters. Must be valid email format
Accounts Email	Email for accounts contact. Fill only if different than email for primary contact. When filled, account related emails will be sent to this address instead of general.	No	Standard Characters. Must be valid email format
Supports Email	Email for technical support contact. Fill only if different from email for main contact. When filled out, support related emails will be sent to this address instead of general.	No	Standard Characters. Must be valid email format
Website	Customers website address	No	Standard Characters. Must be valid web site address format
Contact –name	Name of a specific contact in the customer's organisation. A number of different contacts can be added.	No	Standard Characters
Contact – Phone	1. Phone number for the specific contact entered in the Contact – Name field. 2. It is possible to add more than a one phone number per contact. You can assign one of existing labels [W-Work, H-Home, M-Mobile] to a phone number.	No	Standard Characters
Contact – Role	Role of the specific contact entered in the Contact – Name field	No	Standard Characters
Contact – Email	Email address for the specific contact entered in the Contact – Name field	No	Standard Characters. Must be valid email format
Add Contact	Click on this button to accept the information entered in the contact name, phone, role and email fields. The contact fields will be cleared to allow details for another contact to be entered	No	Not applicable
Contacts list	1. Automatically generated drop down menu showing the list of contacts added. 2. Link to contact details edit screen (see section 4.2)	N/A	Not applicable

Field	Description	Mandatory	Format
Delete	Click on this button to DELETE a contact in the contact list. To delete the contact select the contact name from the contact list and click on the Delete button	N/A	Not applicable
Set as preferred	Set the contact displayed in the contact list box as the preferred contact. The preferred contact is the main customer contact person and is identified with a 'P' in the contacts list. Preferred contact is used for installation status notices to installers	N/A	Not applicable
Edit Contact	To edit a contact that has been entered in the contact list; 1. Click the "Edit Contact" button to access the contact details page. 2. To delete customer select the delete tab on the right hand side. 3. To edit details, update the contact fields and select the "Update Contacts"	N/A	Standard Characters

c) Banking Details

Field	Description	Mandatory	Format
Start Date	Date when customer billing is to commence. This field is automatically set when the customer status is moved to 'current'. It can also be edited manually if required.	Yes	DD/MM/YYYY
Payment Method	This field defines default, preferred by customer method of payment. There are four possibilities Direct Debit – payment is made by Direct Debit issued by operator. Selecting that field makes customer ready for EFT payment method, which automatically generates WINBITS files for every Bank supported by SIMPLer module. All values are showing up in 'bank EFT' account Cheque – payment by cheque. On-line transfer -if the customer pays by electronic banking. Note that the money from Cheque payments and On-line transfers are gathered in 'bank CRD' account Cash – payment by cash. 'bank CASH' account on ledger	Yes	Dropdown Menu
VAT Exemption	Drop down menu to select if the customer is exempt from paying VAT on the service. Select the	Yes	Not Applicable

Field	Description	Mandatory	Format
	appropriate value based on the following criteria: <i>No</i> if the customer is NOT exempted from paying VAT on the service. <i>Yes</i> if the customer IS exempted from paying VAT on the service		
Default New Subscription Settings			
TAX Mode	Specifies whether the Tax Rate will be set to a default value of 21.00 according to the VAT rate entered into the original WISP Operator settings in Section 3 or at a fixed value that can be set in the TAX Rate field.	No	Dropdown menu
TAX Zone			
TAX Rate	The rate of Tax that will be charged	No	Numeric
Invoicing Status	Field, that indicates if customer is added to billing system. When 'Not Added' -> there will be no invoices generated	Yes	Dropdown list.
Send Method	Drop down menu to select the format for sending the invoice to the customer. Select the appropriate format based on the following criteria: To customer – both the customer and the operator will receive the mail To operator only – the email will be received by the operator only	Yes	Dropdown list
Frequency	Number of months between each invoice to be sent to the customer. Once the number of months has been entered and another field selected the billing period will be automatically displayed in the box to the right of the Frequency field. PLEASE ENSURE THAT THE VALUE IN THIS FIELD MATCHES THE BILLING INTERVAL OF THE CUSTOMER SUBSCRIPTION PACKAGE	Yes	Not Applicable
Credit days	The number of credit days provided to the customer on the next invoice. An example of use is when there is a service outage and the SLA with the customer stipulates that the Operator needs to apply credit to the customer as a consequence.	Yes	Number between 0 and 356
Setup Fees	The cost of the initial once off setup fee.	Yes	Monitory value to 2 decimal places excluding the currency symbol and thousand separators (.). For example, to enter a set up fee amount of 135 euros and 45 cents

Field	Description	Mandatory	Format
			enter as 135.45
Purchase Order Number	Order number that will be written on the invoice	Yes	Standard Characters
Folder	Physical folder in which customer paper data is stored. For tracking purposes	Yes	Standard Characters.
Subscriber Auto Notification/Disconnection			
Status	Default – Uses Default SIMPLer-wise Date parameters (under modify operator) for this customer Deferred - Off – Disables SAND functionality for this customer. Override defaults - Uses override parameters below instead of Default SIMPLer-wise Date parameters for this customer	No	Dropdown List
Email From	Email address used in From field of the notification email Note: Operator Accounts Email (or Operator Email if none) will be used if left blank.	No	Standard email format with standard character and Numbers.
Email To	Email address used in To field of the notification email Note: Customer Email will be used if left blank. (Default)	No	Standard email format with Standard characters and Numbers
Email Bcc	Email address used in Bcc field of the notification email Note: Operator Accounts Email (or Operator Email if none) will be used if left blank.	No	Standard email format with Standard Characters and Numbers
Create Billing Issue Date	Defines after what time since invoice post date first notification email will be sent to operators' customer if an invoice remains unpaid.	No	DD/MM/YYYY
1st notification email date	Defines after what time since invoice post date first notification email will be sent to operators' customer if an invoice remains unpaid. Note: Email will not be sent if left blank	No	Not Applicable
2nd notification email date	Defines after what time since invoice post date second notification email will be sent to operators' customer if an invoice remains unpaid. Note: Email will not be sent if left blank	No	Not Applicable
Disconnection date	Defines after what time since invoice post date customer will be disconnected, if an invoice remains unpaid. Note: Email will not be sent if left blank	No	DD/MM/YYYY

Field	Description	Mandatory	Format
Throttling date	Defines after what time since invoice post date customer will be throttled, if an invoice remains unpaid. <i>Note:</i> Email will not be sent if left blank	No	DD/MM/YYYY
Bank Sort Code	Sorting code for the customers bank	No	Standard characters
Bank Account Number	Bank account number that the customer will be paying from	No	Standard characters
Bank Online Reference	This is the description of the transaction that will appear on the customer's bank statement. It needs to match the number that was sent on the Direct Debit Mandate.	No	Standard Characters
Bank Account Name	Name of the bank account that the customer will be paying from	No	Standard characters
Credit Card Holder Name	Name on the customers credit card, if they pay by credit card	No	Standard characters
Credit Card Number	Credit Card Number, if customer pays by credit card	No	Numeric
Credit Card Expiry	Credit Card Expiry date in MM/YYYY format. Only applicable if customer pays by credit card	No	Numeric
Credit Card CCV	Credit Card Verification number (usually 3-4 digits printed on the back of the credit card). Only applicable if customer pays by credit card	No	Numeric
Number (Only if VAT exemption is 'Yes')	Customer VAT Registration Number This will only appear if 'VAT Exemption' is set to yes.	No	Standard Characters.
Expiry (Only if VAT exemption is 'Yes')	Customer VAT Registration Expiry Date This will only appear if 'VAT Exemption' is set to yes.	No	DD/MM/YYYY

d) Network Details

Field	Description	Mandatory	Format
Installation date	Date when the installation was completed at the customer's site. This field is automatically set when the customer status is moved to 'current'. It can also be edited manually if required.	Yes	DD/MM/YYYY
Gateway	Drop down menu showing the list of available gateways. If the install is completed using the auto-provisioning feature this field will be updated automatically when the subscriber module is detected.	Yes	Select from option in drop down menu
Traffic Shaping	Drop down menu showing the list of available	Yes	Select from option in

Field	Description	Mandatory	Format
Bucket	traffic shaping buckets for gateway selected.		drop down menu
Auto – Prov IP type	Drop down menu to select whether the customer requires a <i>Public</i> or <i>Private</i> IP address	Yes	Dropdown list
Auto – Prov IP number	The number of IP addresses required by the customer. This value acts as an upper limit. Customer can have less IPs assigned. <i>Note:</i> If NAT is selected this value is set to 1.	Yes	Number
Monitor	Drop down menu providing a list of service monitoring options available to the customer. Depending on the option selected, Azotel can monitor the availability of the service to the customer and alert the Operator if an interruption to the service is detected. Select the appropriate option based on the following criteria: <i>No Monitor</i> if the availability of the customer service is not to be monitored. <i>Monitor</i> if the availability of the customer service is to be monitored by the network health analyser system <i>Monitor + SMS</i> if the availability of the customer service is to be monitored and an SMS alert is to be sent to a designated contact in the company if the service is interrupted <i>Monitor no alert:</i> the availability of the customer service is monitored and reported in the network health window, but emails/SMS alerts will not be sent if the service fails.	No	Not applicable
TCP*	List of system wide blocked TCP ports. Use space sign to separate if more than one entry. There are two types of valid entries, that can be used on this list: 1) one port to block (ex.: 145) 2) port range to block (ex: 140:200) Example field entry: 21 50 150:300 10000:50000	No	Numbers and ‘.’ sign
UDP**	List of system wide blocked UDP ports. Use same syntax as above	No	Numbers and ‘.’ sign
P2P Restricting	Dropdown list with two options: 1) false (Default) – p2p blocking turned off 2) true – p2p blocking turned on	Yes	Non applicable

* Blocking single ports is fine. However, blocking broad ranges of ports is a bad practise. In some situations, it may lead to generating huge amount of connections on WIB. This behaviour may be caused by some routers, which will try to establish connection on next port, and next port, when blocked port is encountered.

* See footnote for TCP.

Field	Description	Mandatory	Format
TCP Connection Limit	If set this indicates the maximum number of TCP connections the customer is allowed to have active. If this field is blank or set to 0 it indicates that a limit is not in force. See Annex C for a description of connections and the use/limitations of this field	No	Number
DHCP Options	Used to specify customer specific DHCP options. Anything entered here will be added to every host parameter for this customer's IPs. This will only be used, if custom DHCP options are specified for this customer's WIB	No	
Subscriber Auto Notification/Disconnection			
Status	Default – Uses Default SIMPLer-wise Date parameters (under modify operator) for this customer Deferred - Off – Disables SAND functionality for this customer. Override defaults - Uses override parameters below instead of Default SIMPLer-wise Date parameters for this customer	No	Dropdown List
Monthly Traffic Limit [GB]	Defines maximum traffic amount customer is allowed on monthly basis (counted on 1 st day of the month). For new customers amount available in their first month will be calculated as a percentage based on the amount of days left.	No	Standard numeric
Email From	Email address used in From field of the notification email	No	Standard Email format.
	Note: Operator Accounts Email (or Operator Email if none) will be used if left blank.		
Email To	Email address used in To field of the notification email	No	Standard Email format
	Note: Customer Email will be used if left blank. (Default)		
Email Bcc	Email address used in Bcc field of the notification email	No	Standard Email format
	Note: Operator Accounts Email (or Operator Email if none) will be used if left blank.		
1st notification email threshold [%]	Defines at what traffic threshold [%], will the first notification email be sent to operators' customers	No	Standard Numeric
2nd notification email threshold [%]	Defines at what traffic threshold [%], will the second notification email be sent to operators' customers	No	Standard Numeric
Disconnection threshold [%]	Defines at what traffic threshold [%] that the customer will be disconnected.	No	Standard Numeric

Field	Description	Mandatory	Format
Overage/Throttling threshold [%]	Defines at what traffic threshold [%] will the customer be charged for overage.	No	Standard Numeric
NAT	If a private IP is selected this drop down menu appears to provide the option to select Network Address Translation on Canopy Equipment 'on' or 'off'. This field affects configuration of Customers Canopy Subscriber Module. When turned on, it activates NAT + DHCP on Canopy module changing SM to simple router, otherwise Canopy SM acts as a gateway. Note that NAT allows the customer to use the automatic IP allocation option on their PC. Note, that if customer is complaining about his link and uses Torrent or other similar application, then the problem can be connected with NAT table filling in too quickly. That problem can be solved in three ways: first- turn of NAT on SM, second- setting up connection limit in Torrent client, third- setting NAT table flush timer to smaller value	Yes	Dropdown list
Equipment Details			
Equipment Nickname	Drop down menu showing list of subscriber equipment available in stock. Select the nickname for the equipment to be assigned to the customer. If the installation is completed using the auto-provisioning feature this field will be updated automatically when the subscriber module is detected.	Yes	Select from option in drop down menu
IP Address, Description, Serial Number, MAC Address, Equipment Status, Purchase Invoice Details.	These are non modifiable fields that will be automatically filled in when the equipment nickname is selected	N/a	Not applicable
Colour	Subscriber module colour value. If the installation is completed using the auto-provisioning feature this field will be updated automatically when the subscriber module is detected.	Yes	Integer number
Frequency	[Unused] Subscriber module frequency setting	N/a	Not Applicable
GPS X and GPS Y	[Unused] Subscriber module GPS co-ordinates.	N/a	Not Applicable
Distance	Distance in miles from the nearest base station as stated on the subscriber module status page. If the install is completed using the auto-provisioning feature this field will be updated automatically when the subscriber module is	Yes	Number

Field	Description	Mandatory	Format
	detected.		
Installed By	Name of the installer who completed the installation	No	Free Text
Dish Installed	Drop down menu to select if a dish has been installed with the subscriber module	No	Dropdown menu
Grounding Completed	Drop Down menu to if select if equipment has been adequately ground to ensure that equipment is safe.	No	Dropdown menu
RSSI	Optional watching of RSSI value for Motorola Canopy SM. When checked additional RSSI link is shown in main 'customer details' page.	Yes	Checkbox
Jitter	Optional watching of Jitter value for Motorola Canopy SM. When checked additional Jitter link is shown in main 'customer details' page.	Yes	Checkbox

e) Modify IP Table

Field	Description	Mandatory	Format
Public IP address, Core IP address, WAN IP address	IP address assigned to customer field (explained in detail in further part of this manual)	No	Numbers and comma sign
Gateway	Name of interface on gateway used for IP address generation	Yes	Dropdown list
IP Address	Range from which IP address is generated (optional way to selection by Gateway interface)	No	Numbers and comma

5.2 Adding new customers

Once the completed contract form has been received the customer details can be added to the database. This section describes how to enter the data into the database

- 1) Pick the 'customer' position from SIMPLer solution menu
- 2) Select the link 'Add a new customer >>'
- 3) Fill out all relevant information in 'Customer general information' page (fig. 5.2-1) that will appear than click 'contact details' from submenu. Please note, that Name, Sage ID, nickname and email fields have to be filled at least. When the information for one customer details page has been entered and you are satisfied, you can navigate using submenu to other detail pages. At any time you can go back to earlier category fields by clicking category name at top of the page, and you can review or modify the information that was already entered. All information entered for each category will be kept for further editing, until the customer is added.
- 4) Click 'Add customer button' to propagate the changes

Note that subscriber details can also be modified at any stage after the initial set of information is committed to the database.

Dashboard

Map

Customers

Maintenance

Invoices

Products

Network

Hotspots

VOIP

RADIUS

Tools

Settings

QuickSearch ...

General

Contact details

Banking details

Network details

Custom Fields

Back

Add Customer

Customer Identification

Name ?

Invoicing ID ?

Nickname ?

Group ?

Note: To select multiple groups Ctrl + Click on each group name.
To unselect a group simply Ctrl + Click on the name again.

Value Added Reseller ?

Master Agent ?

Regional Sales Manager ?

Sales Team Member ?

Customer Address Details

Billing Address ?

Installation Address (if different than Billing Address) ?

Show Map

GPS LAT ?

GPS LONG ?

Installation Area ?

Community Code ?

Other Details

Status ?

waiting for install

Importance ?

3

Priority

3

Type ?

customer home

Waiting since (date)

Sep 22 2015

Customer Tracking ?

Normal

Installer Fee

0.00

Marketing Code ?

Installer Assigned

-- nobody assigned --

Marketing Emails ?

off

Maintenance Issue Title

Customer Installation

Form 477 - Tech Code ?

Default (Terrestrial Fixed Wireless)

Form 477 - DBA Name ?

Schedule Installation

VoIP Billing

Customer Date Details

Initial Contact Date ?

Sep 22 2015

Referral Customer ?

Installation Date ?

Referral Fee Status ?

Start Date ?

Referral Fee Amount ?

Customer Referrals

Customer Templates

Invoice Template

default

EUP Template

default

Customer Notes

Note ?

Private Notes ?

Back

Add Customer

Next

Figure 5.2-1. “Add Customers” page

5.3 Searching for the customer(s)

Searching for customers can be done straight from customers’ main page (Fig. 5.1-1) general part. This tool helps to locate specific customers or groups of customers in the database. In order to access the customers’ search page click on the ‘Customers’ link on the main navigation bar at the top of the page.

5.3.1 Search for a specific customer

On the customers’ search page it is possible to locate a customer by searching on the customer Name, Nickname or Invoicing ID. Select the type according to which the search is to be performed by clicking on the button next to fields such as ‘Name’, ‘Nickname’ or ‘Invoicing ID’. Enter the search criteria and click on the ‘Search’ button. Customers that match the criteria will be displayed.

In order to retrieve the list of all customers, leave the search field blank and click on the ‘View Customer List/Search’ button. This will return the full list of customers (Fig 5.3.1-1). In order to view only the customers with a current status, repeat the same step but click on the “Search Current” button.

Azotel Confidential Proprietary
© Azotel Technologies Ltd 2024

Scroll through the search results to find the customer required. To access 'customer detail' page (Fig. 5.4-1) click on any of customer's information except of its email address. There is also a possibility to send out an email to customer by clicking on its email address.

Customer ID	Invoicing ID	Nickname	Name	Address	Phone	Status	Email	Cust. IP Address	Imp.
11006	10103285477	AmeliaTupouTV7	Amelia Tupou (TV)	Anana Tongatapu	(M) 8717212	current		10.158.2.4	3
11005	10103285476	AmeliaTupouTV6	Amelia Tupou (TV)	Anana Tongatapu	(M) 8717212	current		10.158.2.4	3
11004	10103285475	AmeliaTupouTV5	Amelia Tupou (TV)	Anana Tongatapu	(M) 8717212	current		10.158.2.4	3
11003	10103285474	AmeliaTupouTV4	Amelia Tupou (TV)	Anana Tongatapu	(M) 8717212	current		10.158.2.4	3
11002	10103285473	AmeliaTupouTV3	Amelia Tupou (TV)	Anana Tongatapu	(M) 8717212	current		10.158.2.4	3
11001	10103285472	AmeliaTupouTV2	Amelia Tupou (TV)	Anana Tongatapu	(M) 8717212	current		10.158.2.4	3

Figure 5.3-1. "Search results" page

5.3.2 Search for customer groups

With the search by type or search by customer status options, it is possible to locate particular categories of customers. Select the type of search you need to perform by clicking on the button next to 'Type', or 'Status'. A drop down menu is provided with each of these search options to select the search criteria to be used. Once the search criteria is selected, click on the 'Search' button. Customers that match the criteria will be displayed.

5.4 Customer details page

Customer details page (fig. 5.4-1) is the basic page containing all important information for each customer. You can access this page through Search engine and from many other parts of SIMPLer. This page consists of four parts:

- 1) 'Blue menu' with actions, that can be performed for every customer such as:
 - a) Modify customer – link to 'modify customer details' page. It's important to keep customer information in SIMPLer up to date.
 - b) Customer Portal – link to 'Customer Portal Management' page, with details for customer portal access.
 - c) Invoices details – this link leads to page containing list of all invoices issued for particular customer.
 - d) Subscription details – details of subscription (products) for particular user. As all invoices are generated according to these information, it's more than important to fill it out correctly, otherwise operator may loose customers due to invoicing problems
 - e) Statement – customer statement
 - f) Billing issues – billing issues assigned to particular customer
 - g) Modify network details – link to network details of customer. It's a easy to use tool to add/modify/delete IP addresses assigned for usage by customer
 - h) Maintenance – maintenance issues assigned to particular customer
- 2) 'Customer Details' part of page – table with all important Customer information gathered together.
- 3) 'Subscription details' – summary of customer Subscription, that is assigned to particular customer. Note that there is 'Next invoice date' field in left bottom corner, which can be very useful when resolving invoicing issues
- 4) Network details – Summary of customer network settings. This section contains also all useful links regarding to network details. Those are put in place to ease access to webpage of customer's equipment, showing customer interface traffic graphs etc. **Note that if Jitter and/or RSSI functionality are enabled for particular customer, there are links to regarded graphs in the equipment details section of the customer information page.**

Dashboard	Map	Customers	Maintenance	Invoices	Products	Network	Hotspots	VOIP	RADIUS	Tools	Settings	QuickSearch ...																																																																						
General: - Modify Customer - Sub-Accounts - Customer Portal - Sales Opportunities (1) - Email/FTP details Invoicing: - Custom Invoice - Invoices Details - Quotes - Subscription Details - Credit Card Details - Bank Account Details - Prepayments - Credits - Free Service Bonus - Statement - Billing Issues - CC/E-Check Trans. Log Network: - Provision Now! - Provision w/o CPE Customer Account (modify...) (history...) <table> <tr> <td>Customer ID</td> <td>11007</td> </tr> <tr> <td>Invoicing ID</td> <td>4119799208</td> </tr> <tr> <td>Nickname</td> <td>MrGuo</td> </tr> <tr> <td>Name</td> <td>Mr Guo</td> </tr> <tr> <td>Status</td> <td>potential Changed: SAND: Clear</td> </tr> </table> Contact Details (modify...) (history...) (maillog...) <table> <tr> <td>Email VCard</td> <td></td> </tr> <tr> <td>Email</td> <td></td> </tr> <tr> <td>Accounts Email</td> <td></td> </tr> <tr> <td>Supports Email</td> <td></td> </tr> <tr> <td>Telephone ?</td> <td></td> </tr> <tr> <td>Fax</td> <td></td> </tr> <tr> <td>Website</td> <td></td> </tr> <tr> <td>Contacts ?</td> <td></td> </tr> </table> General (modify...) (history...) <table> <tr> <td>Type</td> <td>customer home</td> </tr> <tr> <td>Start Date</td> <td>Apr 01, 2015</td> </tr> <tr> <td>Initial Contact Date</td> <td>Apr 08, 2015</td> </tr> <tr> <td>Installation Date</td> <td>Apr 07, 2015</td> </tr> <tr> <td>Importance</td> <td>4</td> </tr> <tr> <td>Customer Tracking</td> <td>Normal</td> </tr> <tr> <td>Marketing Code</td> <td></td> </tr> <tr> <td>Marketing Emails</td> <td>No</td> </tr> <tr> <td>Reference</td> <td></td> </tr> <tr> <td>Reference Fee</td> <td></td> </tr> <tr> <td>Reference Fee Status</td> <td></td> </tr> <tr> <td>Sales Team Member</td> <td></td> </tr> </table> Financial Summary (statement...) <table> <tr> <td>Prepayments (Amount Remaining)</td> <td>USD 100.00 CR</td> </tr> <tr> <td>Credits (Amount Remaining)</td> <td>USD 10.00 CR</td> </tr> <tr> <td>Customer Balance</td> <td>USD 0.00 DR</td> </tr> </table> Address (modify...) (history...) <table> <tr> <th>Billing Address:</th> <th>Installation Address:</th> </tr> <tr> <td>Street test 123</td> <td>Street test a</td> </tr> <tr> <td>456</td> <td>test b</td> </tr> <tr> <td>Town test1</td> <td>Town test c</td> </tr> <tr> <td>County test2</td> <td>County test d</td> </tr> <tr> <td>Post Code 12-345</td> <td>Post Code 34-567</td> </tr> <tr> <td>Country Ireland</td> <td>Country Ireland</td> </tr> </table> Installation Area zxc Community Code 12 GPS Coordinates Run PTP Analysis													Customer ID	11007	Invoicing ID	4119799208	Nickname	MrGuo	Name	Mr Guo	Status	potential Changed: SAND: Clear	Email VCard		Email		Accounts Email		Supports Email		Telephone ?		Fax		Website		Contacts ?		Type	customer home	Start Date	Apr 01, 2015	Initial Contact Date	Apr 08, 2015	Installation Date	Apr 07, 2015	Importance	4	Customer Tracking	Normal	Marketing Code		Marketing Emails	No	Reference		Reference Fee		Reference Fee Status		Sales Team Member		Prepayments (Amount Remaining)	USD 100.00 CR	Credits (Amount Remaining)	USD 10.00 CR	Customer Balance	USD 0.00 DR	Billing Address:	Installation Address:	Street test 123	Street test a	456	test b	Town test1	Town test c	County test2	County test d	Post Code 12-345	Post Code 34-567	Country Ireland	Country Ireland
Customer ID	11007																																																																																	
Invoicing ID	4119799208																																																																																	
Nickname	MrGuo																																																																																	
Name	Mr Guo																																																																																	
Status	potential Changed: SAND: Clear																																																																																	
Email VCard																																																																																		
Email																																																																																		
Accounts Email																																																																																		
Supports Email																																																																																		
Telephone ?																																																																																		
Fax																																																																																		
Website																																																																																		
Contacts ?																																																																																		
Type	customer home																																																																																	
Start Date	Apr 01, 2015																																																																																	
Initial Contact Date	Apr 08, 2015																																																																																	
Installation Date	Apr 07, 2015																																																																																	
Importance	4																																																																																	
Customer Tracking	Normal																																																																																	
Marketing Code																																																																																		
Marketing Emails	No																																																																																	
Reference																																																																																		
Reference Fee																																																																																		
Reference Fee Status																																																																																		
Sales Team Member																																																																																		
Prepayments (Amount Remaining)	USD 100.00 CR																																																																																	
Credits (Amount Remaining)	USD 10.00 CR																																																																																	
Customer Balance	USD 0.00 DR																																																																																	
Billing Address:	Installation Address:																																																																																	
Street test 123	Street test a																																																																																	
456	test b																																																																																	
Town test1	Town test c																																																																																	
County test2	County test d																																																																																	
Post Code 12-345	Post Code 34-567																																																																																	
Country Ireland	Country Ireland																																																																																	

Modify Network Details
Modify IP Table
Modify Equipment
Modify Radius
Maintenance

Custom Fields (modify...) (history...)

Vat Number
Voice Identifier

Network Details (modify...) (history...)

Monitor **monitor**
Gateway **No Gateway assigned**
Bucket **No Bucket assigned**

End User Portal (modify...) (history...)

Open EUP Copy Link
Portal Username 4119799208
Portal Password *****
Terms & Conditions Not Accepted

Change History (details...)**Customer Notes**

Note
4119799208
test a
test b
test c
test d
test e
test f
Customer Migration Report:
- Customer account was migrated from account: MrGuo (32) in emma instance
- Setup fees of 0.00 were reset to 0 during migration as customer was invoiced already.
Private Note
test 1

Customer Interaction**Mr Guo, 4119799208**

QuickSearch ...

Last 5 Notes (add...) (all...)

Date	Reported By	Title	Note Text
Sep 22, 2015	aleksandra	note 2	note b
Sep 22, 2015	aleksandra	note a	note 1

Last 5 Sales Opportunities (add...) (all...)

Date	Status	Title	Quotes
Sep 22, 2015	finalized	test111	Add Quote

Last 5 Maintenance (add...) (all...)

Date	Reported By	Title	Status	Closed By	Description
Apr 08, 2015	marc	Customer Installation	closed	-	Customer Installation

Last 5 Attachments (add...) (all...)

File	Size	Description	Date	Added By
No Files Added				

Customer Billing Details**Mr Guo, 4119799208**

QuickSearch ...

Billing Details (modify...) (history...)

Invoicing Status **Yes**
Payment Method **direct debit**
Frequency 1 month(s)
Credit Days 30
Send Method Send via Post
VAT / TAX Exemption No
Folder

Financial Summary (statement...)

Prepayments USD 100.00 CR
(Amount Remaining)
Credits USD 10.00 CR
(Amount Remaining)
Customer Balance **USD 0.00 DR**

First Invoice Details

Date May 01, 2015
(30 days credit added)
Setup Fee (modify...) USD 0.00
including 21.00 % VAT/TAX
Subscription Total USD 100.00
Total Amount USD 100.00
[Generate Invoice](#)

Last 5 Invoices (all...)

No	Date	Amount	Status
No invoice has been generated yet			

Last 5 Quotes (add...) (all...)

No	Date	Amount	Status
No quote has been generated yet			

Last 5 Prepayments (all...)

Reference	Date	Amount	Remaining
A17 [44]	Sep 22, 2015	100.00	100.00

Last 5 Credits (all...)

Description	Date	Nett	Full	Remaining
test567	Sep 22, 2015	10.00	10.00	10.00

Quick Links

[Custom Invoice](#) ?
[Custom Credit Card Payment](#) ?
[Custom E-Check Payment](#) ?
[Custom Refund](#) ?
[Apply Payment To Customer](#) ?
[Apply Payment To Invoices](#) ?
[Consolidate Subscriptions](#) ?
[Payment Authorization Codes](#) ?

Credit Card Details (modify...) (history...)

Number	Expiration Date	Holder	Type
No Credit Card Details available			

Bank Account Details (modify...) (history...)

ID	Preferred	Bank Account Number	Bank Sort Code	Bank Online Reference	Bank Account Name
No Bank account Details available					

Subscription Details (modify_) (history_) (consolidate subscriptions_)

Current Recurring Products

Code	Description	Qty	Price	Import	Disc.	Premium	TAX / VAT Rate	Total	Valid Dates	Cycles Left	Traffic Allowance	Use Free Service Bonus
2M/1M	Internet Connection: 2M Download/1M Upload - 1GB CAP	1	100.00	N	0.00 %	0.00 %	Rate: 0.00 % Fees: 0.00 ?	100.00			1 GB	
Total Amount (USD)								100.00				
to be paid each frequency period (Including TAX / VAT)												

Free Service Bonus (modify_) (history_)

Date	Type	Referral	Cycles	Cycles Left	Months	Months Left	Status
2015-09-22	custom		6	4	9	7	Active
2015-09-22	custom		4	1	4	1	Inactive

Figure 5.4-1. "Customer details" page

5.5 Modifying user

When any of customer details have changed it is more than important to update customer information in SIMPLer, too. In order to update customers' information, follow these steps:

- 1) Select the 'Customers' tab from the main navigation menu to access the 'Search for information about customers' page (Fig. 5.1-1)
- 2) Search for a particular customer using one of search methods in the search field
Note: If needed refer to 5.2 section of this manual for help.
- 3) Select the customer record or click the "C" tab (Customer Details) to the right of the record to access the customer details page for that record.
- 4) Select the 'modify' tab for the 'Customer Account' from the 'customer details page' to access 'modify customers' page (Fig. 5.5-1)
- 5) Modify customer data in any of modify customer details pages.

Note: Never modify the Sage ID once it's provided.

- 6) Click the 'Update Customer' button to change the customer details in SIMPLer.

Dashboard
Map
Customers
Maintenance
Invoices
Products
Network
Hotspots
VOIP
RADIUS
Tools
Settings
QuickSearch ...

General
Contact details
Banking details
Network details
Custom Fields
Back
Back to Customer Details
Update Customer

Customer Identification
Name ?
Mr Guo
Invoicing ID ?
4119799208
Nickname ?
MrGuo
Group ?
001ZoneA
002Zone2
003Zone3
New
Vac001
Note: To select multiple groups Ctrl + Click on each group name.
To unselect a group simply Ctrl + Click on the name again.
Value Added Reseller ?
Master Agent ?
Regional Sales Manager ?
Sales Team Member ?

Customer Address Details

Billing Address ?

- Street1

test 123

- Street2

456

- Town

test1

- County

test2

- Post Code

12-345

- State

- Country

Ireland

GPS LAT ?

4.5600000

4.5600000°

GPS LONG ?

6.7800000

6.7800000°

Installation Address (if different than Billing Address) ?

- Street1

test a

- Street2

test b

- Town

test c

- County

test d

- Post Code

34-567

- State

Installation Area ?

zxc

Community Code ?

12

Show Map

Other Details

Status ?

potential

Importance ?

4

Type ?

customer home

Customer Tracking ?

Normal

Marketing Code ?

Marketing Emails ?

off

Form 477 - Tech Code ?

Default (Terrestrial Fixed Wireless)

Form 477 - DBA Name ?

Schedule Installation

VoIP Billing

☐

Customer Date Details

Initial Contact Date ?

Apr

8

2015

Installation Date ?

Apr

7

2015

Start Date ?

Apr

1

2015

Customer Referrals

Referral Customer ?

Referral Fee Status ?

Referral Fee Amount ?

Customer Templates

Invoice Template

default

EUP Template

default

Customer Notes

Note ?

4119799208

test a

test b

test c

test d

test e

test f

Customer Migration Report:

- Customer account was migrated from account: MrGuo (32) in emma instance

- Setup fees of 0.00 were reset to 0 during migration as

Private Notes ?

test 1

test 2

test 3

Back

Back to Customer Details

Update Customer

Figure 5.5-1. "Modify customer" page

Azotel Confidential Proprietary
© Azotel Technologies Ltd 2024

5.7 Changing customer monitoring/invoicing/marketing emails status

This family of tools is used to provide rapid changes functionality for all users. Layout of change pages is very similar and is shown on figure 5.7-1. From those pages we can check the values of specified parameter for all users, and perform changes needed to many users at one time. Note, that using 'results to be displayed' field it's possible to filter out only one value of parameter. That is more than useful for example in case of defining which customers are monitored or invoiced. It's very easy to extract excluded customers. By default all results for each selection in 'Result to be displayed' field are shown on one page. However, there is a possibility to limit results to specified number per page using 'Number of results to display per page' field.

To perform a change for a customer simply:

- 1) Select the status (monitoring/invoicing/marketing emails) that is to be changed on the 'Search for information about customers' page (Fig. 5.5-1)
- 2) Change the value in the dropdown list to desired status in the 'Search and change customer XXXXXX status' page (Fig. 5.7-1) **Note:** XXXXX represents the status that is to be edited i.e. Monitor etc.
- 3) Repeat this step for other customers if needed
- 4) Click the 'Update XXXXXX Status' button (XXXXXX represents edited field, i.e. Monitor Status, Invoicing Status, Marketing Emails Status)

WISP: Testss
login: justyna
Search and change customers monitor status

Recently Viewed Customers

Inbox (0)

Dashboard Map Customers Invoices Products Network Hotspots Voip Radius Tools Settings Logout QuickSearch ...

Results 1 - 6 of 6

Number of results to display per page : All

Results to be displayed : Monitor: All Type: All Tracking: All

Customer ID	Name	Monitor	Canopy
21	Joe Bloggs	no monitor	1.2.3.4 N/A
14	Joe Shorty	no monitor	172.16.9.205
303	Lech Kaczynski	no monitor	192.168.120.5 192.168.120.6
73	Nicole Kidman	monitor	1.2.3.4
33	Stephen Test	no monitor	172.16.115.156
50	TEst	monitor no alert	10.10.1.252

Figure 5.7-1. "Search and change customer monitor status" page

5.8 Maintenance

A maintenance log feature is provided to track any maintenance tasks outstanding or completed for each customer. It has the facility to email MS Word and MS Excel documents containing a list of customers' installation status (i.e. list of customers waiting for installation or waiting for maintenance work). Emails are sent to the operators support email address on a daily basis (each evening) and to a specified email address when triggered from the webpage. This tool has been designed as an automatic communication system notifying about outstanding tasks with installers/field support technicians. The 'Maintenance' log managing page (Fig. 5.8-1) can be accessed from the main 'customers' page (Fig. 5.1-1) using the 'Maintenance' tab.

The log can be viewed as a complete list of maintenance tasks for all customers or for a specific customer.

- 1) To view the log for all customers click on the 'Maintenance >>' link on the customer search Page.
- 2) To view the log for a specific customer click on the 'Maintenance >>' link on the Customer Details Page.

If more than one maintenance task is in the log tasks will be displayed as a list view (Fig. 5.8-1). The view can be modified and filtered using following steps:

- 1) Set the 'Number of results to display per page' drop down menu to the chosen number of tasks per page ('All', 10, 20, 30, 40, or 50)
- 2) Use the 'Results to be displayed' drop down menu to display 'All', only 'Open' or only 'Closed' tasks.
- 3) Sort tasks by values in columns, by clicking on the column heading of the tasks.

New maintenance tasks can be added by clicking on the "Add" a new issue link. This link can be found either under the list of all maintenance tasks (if the maintenance list for all customers is browsed) or under the list of maintenance tasks for one customer (if the maintenance list for a specific customer is browsed) (more details on adding new maintenance tasks in section 5.8.1). Data that can be included in the maintenance log are explained in table 5.8-1:

Table 5.8-1

Field	Description	Mandatory	Format
Customer Name	If the maintenance log is opened from the search page, then this field will be a drop down menu from which a specific customer can be selected If maintenance log is opened from a specific customer details page this field will refer to that customer name by default.	Yes	Select from option in drop down menu.
Problem Title	An operator can add a problem title to an issue to indicate a quick reference to the nature of the issue.	No	Standard Characters
Date Reported	By default set to current date but can be edited if required	Yes	DD/MM/YYYY
Reported By	Name of the person who reported the fail	Yes	Standard Characters.
Type	Drop down menu to select type of task to be performed. Select the appropriate type based on the following criteria: Repair if the task involves a fix to be made Remove if the connection is to be removed Relocate if the connection is to be moved to another location Administration if the back office setup or administrative task is only required	Yes	Select from option in drop down menu
Description	Free text field to record a description of the issue reported	Yes	Free Text
Resolution	Free text field to record details on the action taken to resolve the issue	Yes	Free Text
Priority	Drop down menu that allows setting priority for the task. Maintenance tasks listed on the Install Status notice sent to installers are sorted by the priority. The lower number, the higher priority, thus highest priority is 1.	No	Select from option in drop down menu
Status	Drop down menu to select status of the task. Select the appropriate status based on the following criteria: Open if the task has not been resolved Closed if the task has been resolved and no further action is required	Yes	Select from option in drop down menu
Date Updated/ Closed	Date on which the Issue was updated or when the task was completed	Yes	DD/MM/YYYY

Field	Description	Mandatory	Format
Hours Spent	An Operator can specify how many hours were spent on resolving the maintenance issue which can then be used for internal assessments	No	Standard Numeric

Figure 5.8-1. “Maintenance” page

When browsing through outstanding maintenance tasks it’s good to know, that:

- 1) Clicking on the Issue number, on the Customer or on the Date reported entry opens the modify details window for that issue
- 2) There is a quick link on the right side of each row leading to details of the customer – that is useful for having reference regarding to IP settings, JSSI and Jitter graphs, equipment details etc.

5.8.1 Adding maintenance task

In order to add a new maintenance task:

- 1) Open the Maintenance Details page and click on the ‘Add’ a new issue link. A blank maintenance record form will be displayed.
- 2) Fill in all relevant information regarding to the particular maintenance issue. Please refer to table 5.8-1 when having any problems with understanding field meaning.
- 3) Click the ‘Add’ button to add new maintenance task.

Dashboard	Map	Customers	Maintenance	Invoices	Products	Network	Hotspots	VOIP	RADIUS	Tools	Settings	QuickSearch ...
-----------	-----	-----------	-------------	----------	----------	---------	----------	------	--------	-------	----------	-----------------

Maintenance Ticket

Ticket Assignment ?

Customer's name ?

Sites ?

Equipment ?

Note: Start entering customer name, site name or equipment nickname to find it in database.

Ticket Details

Problem Title ?

Date Reported ?

Reported by ?

Type ?

Subtype ?

Ownership ?

Installer Tracking ?

Installer ?

Payment Status ?

Installer Fee ?

Opened Date ?

Date Scheduled ?

Closed Date ?

Ticket Notes

Description ?

Resolution ?

Azotel - Internal Use ?

Ticket Last 5 Attachments (Folder ID: 243)

File Name	File Size	Date Added	Added By
No attachments added to the ticket.			

Ticket Update

Azotel Internal - CI Chargeable ? YES

Azotel Internal Type ? Software Error

Priority ? 3

Status ? open

Update/Close Ticket With Date ? Sep 22 2015

Hours Spent ? 0

Discount [%] ? 0

Push to RT ☐

Ticket Email Recipients

Back Reset Add

Back to the maintenance page

Hours Spent

Add:	Date ?	User ?	Hours ?
	Sep 22 2015	aleksandra	0.00

Figure 5.8.1-1. “Add new maintenance issue” page

5.8.2 Deleting maintenance task

In order to delete a maintenance task:

- 1) Open the Maintenance Details page to display the list of maintenance tasks.
- 2) Click on the ‘Issue Number’, ‘Customer’, ‘Title’ or ‘Date Reported’ entry for the task to be edited. This will open the record for that task (Fig. 5.8.3-1).
- 3) Click on the ‘Delete’ button.

We strongly recommend not deleting any data, unless it is entered by mistake.

5.8.3 Modifying maintenance task

In order to modify a maintenance task (***For example:*** when changing the status of the issue to closed):

- 1) Open the Maintenance Details page to display the list of maintenance tasks.
- 2) Click on the ‘Issue Number’, ‘Customer’, ‘Type’ or ‘Date Reported’ entry for the task to be edited. This will open the record for that task (fig. 5.8.3-1).
- 3) Edit the fields as required as outlined in Table 5.8-1
- 4) Click on the ‘Update’ button

Dashboard

Map

Customers

Maintenance

Invoices

Products

Network

Hotspots

VOIP

RADIUS

Tools

Settings

QuickSearch ...

Maintenance Ticket

Issue Number

169

Ticket Assignment ?

Customer's name ?

Test Start (TestStart)

Sites ?

Equipment ?

Note: Start entering customer name, site name or equipment nickname to find it in database.

Ticket Details

Problem Title ?

TEST ONLY

Date Reported ?

Nov 27 2014

(Ticket added at Sep 17, 2015 07:43:45 by emma)

Reported by ?

emma

Type ?

azotel

Subtype ?

Ownership ?

Installer Tracking ?

Installer ?

-- nobody assigned --

Payment Status ?

Not Paid

Installer Fee ?

0.00

Opened Date ?

Sep 22 2015

Date Scheduled ?

00 : 00

Closed Date ?

Schedule Installer ?

Ticket Notes

Description ?

TEST ONLY

Resolution ?

Apply Resolution

Previous Updates ?

[emma 20141127 10:29]

Azotel - Internal Use ?

Ticket Last 5 Attachments (Folder ID: 233)

File Name	File Size	Date Added	Added By
No attachments added to the ticket.			

Add attachment

Ticket Update

Azotel Internal – CI Chargeable ?

NO

Azotel Internal Type ?

Software Error

Priority ?

3

Azotel Owner

Status ?

open

Update/Close Ticket With Date ?

Sep 22 2015

Hours Spent ?

0

Discount [%] ?

0

Push to RT

☐ Selected type is not defined as an RT queue

Ticket Email Recipients

Hours Spent

Add:

Date ?

Sep 22 2015

User ?

aleksandra

Hours ?

0.00

Back

Reset

Update

Update and go to the customer details

Delete

Back to the maintenance page

Figure 5.8.3-1. “Modify a maintenance issue” page

5.8.4 Installer Notification Email

A list of the outstanding maintenance tasks can be provided to the Installer via the Installation Status email sent to designated email addresses each evening. This mail can be used to notify the installer(s) of outstanding maintenance tasks. The file is automatically generated and contains contact details, site address, contact date, priority and notes taken from open maintenance records in the database. An example of such a notification email is shown on Fig. 5.8.4-1 and example of the attachment containing the whole maintenance list is shown on Fig. 5.8.4-2. ***Note:** that all waiting for install customers will also be added to maintenance task list.*

Apart from the automatically sent messages, it is also possible to send an Installations Status email containing the latest available information in the database by clicking on the “Send Installer notification email >>” link on the Search page (Fig. 5.1-1) or in the Maintenance page (Fig. 5.8-1), and entering the destination email in the box provided.

Folks,

Attached is the list of customers 'waiting for install' and 'under maintenance'.

If you have any questions or need further help on any of the contents, please do not hesitate to contact me.

Operator

Azotel Technologies Ltd,

River House,

Blackpool,

Cork,

Ireland.

 [wib 4 issue...1.xls \(7.5 KB\)](#)

 [wib 4 issue...01.rtf \(7.0 KB\)](#)

Figure 5.8.4-1. “Example Notification email” page

Installation Task List

Maintenance**1. Grillview Properties Ltd (Westview)**

Address: Westview Apartments, Eastern Road, Cork
Contact: James Barnel
Phone: +353XXX XXX XXXX
Date Reported: 18/04/2006

Priority: 3
Type: repair
Canopy IP: 192.168.2.167

Note: packet loss

2. IT MadeQuick (Dale Logan)

Address: 10000 Maymoun t,Walk, Cork
Contact: Dale Logan
Phone: 086 XXX XXXX
Date Reported: 20/04/2006

Priority: 3
Type: repair
Canopy IP: 192.168.2.124

Note: Connection dropping (dish fitted?)

Note: Cabin being moved.
 To be removed on Thu 13th Apr

Waiting For Install**1. Altana Brick**

Address: Altana,Brick
Contact: Karl King
Phone: 021XXXXXXXXX
Requested: 13/04/2006

Nickname: Altana Brick

Priority: 2
Note: J Green 2 contact on price for 2x2meg seperate connections.
 Wanted as back up for altana system only.

2. Peter Butter

Requested: 12/04/2006

Nickname: PeterButter

Priority: 3
Note: Jeremy/John S to call to customer w/c 18th April! His mobile no is 086 8053184.

Figure 5.8.4-2. "Example Notification email" page

5.8.5 Installer Tracking Feature (ITF)

The Installer Tracking Feature (ITF) allows the operator to assign maintenance jobs, in particular installation and repairs, to particular installers and track when those jobs have been completed. It also allows the operator to assign a “value” / “cost” to each job, and track payments due to installers.

5.8.5.1 Installers

The first step in using the Installer Tracking is to setup the details of the installers. Do this by clicking on the “Installers” tab in the “Maintenance tasks” section of the “Search for information about customers” page in SIMPLer – see Fig. 5.8.5.1-1 below.

Figure 5.8.5.1-1 Installer Tracking and Installers links from customers page

After clicking on the “Installers” link, a page showing details of current installers will be displayed. Clicking on the “Add” button on this page will bring up the “Add Installer” page, while clicking on the “E” to the right of an existing installer will bring up the “Modify installer” page. Table 5.8.5.1-1 gives details of the fields on these pages:

Table 5.8.5.1-1 Add/Modify Installer fields

Field	Description	Mandatory	Format
Name	The installers name	Yes	Text
Nickname	A nickname assigned to the installer. This will be used in reports and drop down lists. The nickname must be unique	Yes	Text

Field	Description	Mandatory	Format
Phone	The installer's phone number	No	Text
Email	The installer's email address. If this is not blank, a daily email giving details of open items will be sent to this email address	No	Email address
Username	If the operator wishes to give the installer (limited) access to SIMPLer, they should add the installer as a SIMPLer user in the usual way ("users" page) and then list the installer's username here.	No	Dropdown list
Google Calendar	Email address that is assigned to the installer for Google calendaring integration.	No	Standard Email format

Fig. 5.8.5.1-2 and Fig. 5.8.5.1-3 below give a sample of the "Add installer" page with all of the fields populated – the "Modify installer" page looks similar. Clicking the "Add" / "Update" button will commit the data to the database.

Dashboard

Map

Customers

Maintenance

Invoices

Products

Network

Hotspots

VOIP

RADIUS

Tools

Settings

QuickSearch ...

Installers ?

Results 1 - 12 of 12

Search :

Number of results to display per page : 50

ID ?	Nickname ?	Name ?	Phone ?	Email ?	Username ?	Google Calendar ?	
1	Diaz	Sammie Diaz	434-585-5088	SammieRDiaz@pookmail.com	Diaz	azotel.com_ige4h73gj4r1d5sqma4ar2b8@group.calendar.google.com	 
2	Richards	Julie Richards	831-393-7943	JulieARichards@dodgit.com	Richards	azotel.com_g6r3n25k3ocavspu4i18pdinv@group.calendar.google.com	 
21	Emma	Emma Sadleir		emma@azotel.com	emma		 
22	installer1	Installer Name	00007763653	emma@azotel.com	emma		 
23	qqq	qq	111111234	aaa@gmail.com			 
24	aaa	aleksandra	123123123	a@gmail.com	Johan		 
25	slaw	slawek	87874561	slaw@gmail.com	elock		 
26	wrocek	wroclaw	23343434441	wrocek@gmail.com	dburns		 
27	wawa	warszawa	333333330001	wawa@gmail.com	jpalmer		 
28	kra	krakow	64646446371	krakowiaczek@gmail.com	jpeacock		 
29	lodziamiwgore	lodz1	4567854567	zlodziejaszek@gmail.com	timd		 
30	najelopszeptorni	torun1	232323234	piernikitorunskie@gmia.lcom	jmeyer		 

Back

Add

?

Fig. 5.8.5.1-2. Add

Add installer

Name ?
Nickname ?
Phone ?
Email ?
Username ?
Google Calendar ?

-- no user --

Back Reset Add ?

Fig. 5.8.5.1-3. "Add Installer" page

5.8.5.2 Installation Jobs

Whenever a customer is moved to the "waiting for install" state the operator can assign the installer to do the work, and can also specify the fee payable to the installer upon completion. See figure 5.8.5.2-1 below. In addition a new maintenance issue of type "installation" will be created automatically, and the details of the installation job will be attached to this maintenance issue. The maintenance issue will be closed automatically when the customer moves from the "waiting for install" state to any other state (e.g. "current", "survey failed", etc.).

Figure 5.8.5.2-1 Assigning an installer

The automatically created “installation” maintenance issues appear in the normal maintenance issue list, and may be modified in the same way as any other maintenance issue – e.g. to add notes. However, as noted above, it is not necessary to manually close these issues, as they are closed automatically when the customer’s state changes from “waiting for install”. Where an installer has been assigned, details will appear on the maintenance list. See figure 5.8.5.2-2.

azotel

outside

WISP: Testss
login: justyna
Maintenance

Recently Viewed Customers

SIMPLer

Inbox (0)

Dashboard

Map

Customers

Invoices

Products

Network

Hotspots

Voip

Radius

Tools

Settings

Logout

QuickSearch ...

Add

Send Installer notification email

2011-05

Export Report

Maintenance List

Results 1 - 3 of 3

Status to be displayed :
open

Ownership :
All

Type to be displayed:
repair

Subtype:
All

Number of results to display per page :
10

Issue Number	Customer / Site / Equipment	Title	Date Reported	Priority	Type	Subtype	Description	Status	Installer Tracking
360	Joe Bloggs - Test Customer (joeb1)	Test	20/12/10	3	repair		Test	open	Add Installer Tracking...
112	Joe Bloggs (JB1)	test	24/09/09	3	repair		test issue	open	Installer Tracking (Modify...) Id 82 Date Added 24/09/09 Date Scheduled Date Paid Wage 0.00 Assigned Installer -
96	foobar (foobar)	failing	24/07/09	3	repair		foo bar	open	Installer Tracking (Modify...) Id 70 Date Added 24/07/09 Date Scheduled 29/07/09 08:00 Date Paid 30/07/09 Wage 0.00 Assigned Installer -

Add

Send Installer notification email

Figure 5.8.5.2-2 Maintenance list showing assigned installer

As well as maintenance issues of type “installation”, an installer may be assigned to any open maintenance issue by clicking the Add Installer Tracking or ‘A’ link to the right of the page. This would be useful in particular for maintenance issues of type “remove”, “relocate” or “repair”, which involve someone going to the customer’s premises. The page below in Fig. 5.8.5.2-5 will appear.

Maintenance Tasks

Figure 5.8.5.2-3 Installer Tracking

					Installation (157)		install
66		open	0.00	19 Jun 2015	Customer Installation (159)	open	waiting for install
67	Emma Sadleir	open	1000.00	17 Aug 2015	asdxcfgvh (162)	open	post
72	Sammie Diaz	open	0.00	22 Sep 2015	Customer Installation (176)	open	waiting for install

?

Figure 5.8.5.2-4 Add

Add installer tracking

Installer ?

Maintenance Task ?

Payment Status ?

Installer Fee (USD) ?

Opened Date ?

Date Scheduled ?

Time Scheduled ? :

Closed Date ?

Note ?

?

Figure 5.8.5.2-5 Add installer tracking page

The fields on this page are as follows:

Table 5.8.5.2-1

Field	Description	Mandatory	Format
Installer	The installer that is assigned to the maintenance issue.	Yes	Dropdown list
Maintenance Task	The task that the installer is to be assigned to. This defaults to the maintenance task selected, but any open maintenance issue may be selected here	Yes	Dropdown list
Payment Status	Open or Paid. Open implies that this job is not yet complete. Paid implies that the job is complete and the fee has been paid to the installer	Yes	Dropdown list
Installer Fee	Fee that is to be paid to Installer for work done in currency specified in the WISP settings	No	Numeric to two decimal places.
Opened Date	The date the installer tracking item was created	Yes	Dropdown lists
Date Scheduled	The date the installer is schedule to carry out the work	No	Dropdown lists
Time Scheduled	The time at which the installer is schedule to carry out the work on the date scheduled.	No	Dropdown lists
Closed Date	The date on which the task will be closed	No	Dropdown lists

Field	Description	Mandatory	Format
Note	Notes relating to this task	No	Text

Any open installer tracking issue may be modified by clicking the “Modify” link to the right of “Installer Tracking”, or clicking on the black “I” button at the right of the page. A form similar to Figure 5.8.5.2-3 will appear allowing the operator to update the installer tracking issue.

5.8.5.3 Installer Tracking Reports

Clicking on the “Installer Tracking” link in the “Maintenance tasks” section of the “customers” page in SIMPLer – see Fig 5.8.5.3-1 below – This will open up a page where the operator may extract information about current or past installer tracking issues. See Fig. 5.8.5.3-2.

Maintenance Tasks

Fig. 5.8.5.3-1. Installer Tracking

ID	Assigned Installer	Payment Status	Fee	Created Date	Scheduled Date	Closed Date	Maintenance Title (ID)	Maintenance Status	Maintenance Status Comment	Customer Nickname (ID)	Community Code	Note
26	Sammie Diaz	open	9.00	10 Jun 2013	11 Jun 2013 14:00		Customer Installation (93)	open	waiting for install	caltest (10918)		Customer Installation
28		open	0.00	24 Jun 2013			Customer Installation (95)	open	waiting for install	testing09 (10921)		Customer Installation
29		open	0.00	24 Jun 2013			Customer Installation (96)	open	waiting for install	testing10 (10922)		Customer Installation
30		open	0.00	24 Jun 2013			Customer Installation (97)	open	waiting for install	testing11 (10923)		Customer Installation

Figure 5.8.5.3-2. Installer Tracking report page

The top section of this page allows the operator to narrow the search by specifying some, or all, of the following:

- From Date / To Date: Only include issues created between these dates. Both are optional.
- Search by : Created Date, Scheduled Date, Closed Date.
- Maintenance Issue status: All Issue that are either Open or Closed.
- Payment Status: Paid or Not Paid.
- Installer: Select from the list of installers, or All to include information about all installers

If any of these fields are changed, clicking “Calculate” will update the “summary information” and the list of issues at the bottom of the page. The “summary information” gives details of the number of installer tracking issues that meet the search criteria, the average fee payable for those issues, and the total amount payable for the issues.

At the bottom of the page the maintenance issues matching the search criteria are listed. The list may be sorted by clicking on the title of the column. The buttons to the right of each issue are as follows:

- “E” Edit the installer tracking issue
- “M” Edit the associated maintenance issue
- “C” Display the associated customer details
- PDF link to a downloadable workorder.

A new installer tracking issue may be created by clicking the “Add” link at the bottom of this page.

5.8.5.4 Notifications

Installers will receive daily emails with details of any installer tracking issues waiting on them. The notification emails will contain a PDF and Excel spreadsheet giving details of the maintenance issues which require their attention.

5.8.5.5. Customer Subscription – Sort Priority

A new setting - Sort Priority - was added on the customer "Modify Subscription" page in the SIMPLer system (Fig 5.8.5.5-1 and Fig. 5.8.5.5-2).

Code	Description	Qty	Price	Import	Disc.	Premium	TAX / VAT Rate	Total	Valid Dates	Cycles Left	Traffic Allowance	Use Free Service Bonus
2M/1M	Internet Connection: 2M Download/1M Upload - 1GB CAP	1	100.00	N	0.00 %	0.00 %	Rate: 0.00 % Fees: 0.00 ?	100.00			1 GB	Yes
Domain	Site Hosting	1	2.00	N	0.00 %	0.00 %	21.00 % ?	2.42				Yes
Total Amount (USD)								102.42				

Fig.5.8.5.5-1. Modify

Customer Subscription table

ID	Product Code	Product Type	Product Description	Quantity	Price	Discount %	Premium %	TAX Settings	Total Cycles	Every (N) Invoices	Subscription Type	Valid Dates	Free Service Cycles
1162	1-Spider Web	Import	Spider Web High Speed Internet Package	1	75.00	0.00	0.00	TAX Mode: Default TAX Zone: abc TAX Rounding: product default	Fixed TAX Rate %: 8.25 Fixed TAX Fee: 0	81.19	Recurring	to: [] from: []	Yes [] Delete
new	Bus_Standard	Standard	Standard Business Broadband	1	99.00	0.00	0.00	TAX Mode: Default TAX Zone: abc TAX Rounding: product default	Fixed TAX Rate %: 21.00 Fixed TAX Fee: 0	119.79	Recurring	to: [] from: []	Yes [] Delete
Total:										200.98			

Fig.5.8.5.5-2. 'Modify Subscriptions' page

5.8.5.6. Customer Spreadsheet Download for Search Results

A new feature has been added to the SIMPLer system, which allows a platform user to download a customer spreadsheet containing only the customers of the conducted search. As marked on figure 1 - there are two options to get the spreadsheet:

- Download Customer Spreadsheet - a direct download link
- Email Customer Spreadsheet - the spreadsheet will be sent to the main operator email

Dashboard
Map
Customers
Maintenance
Invoices
Products
Network
Hotspots
VOIP
RADIUS
Tools
Settings
QuickSearch ...

Manage Customers

Add a new customer
Change customer monitoring status
Change customer invoicing status
Customer Survey Tool
Display customers by status
Change customer 'marketing emails' status
Sub-Accounts

☒ Standard (Name, Nickname, Invoicing ID)
☐ Nickname
☐ Customer ID
☐ IP address
☐ RADIUS Username
☐ Bank Details
☐ Custom Fields
☐ All Customer Fields
☐ Customer Name & Invoicing ID
☐ Email/FTP Username
☐ DID number (VoIP)

View: ?
☒ Billing Address
☐ Installation Address

Search:
 ?

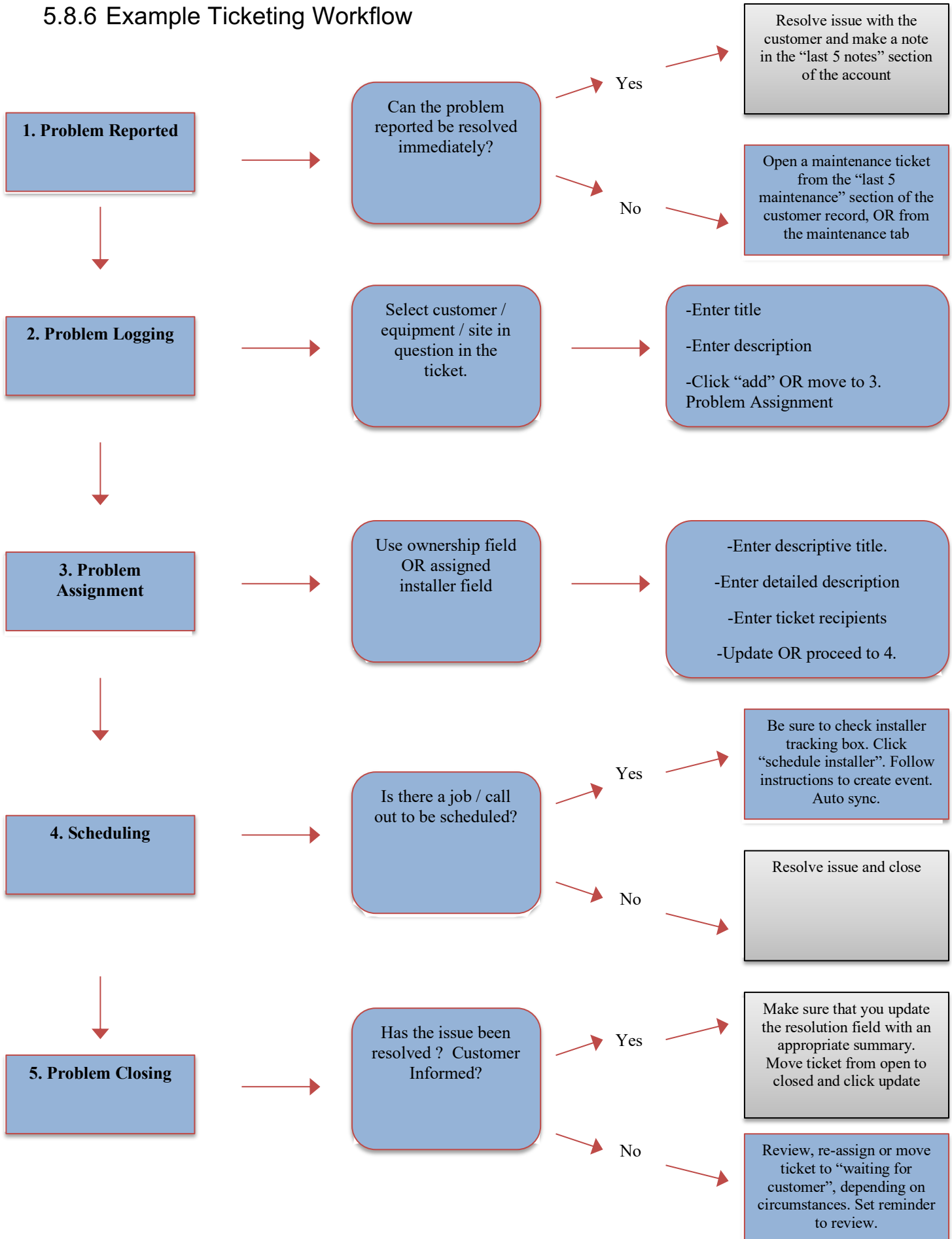
Colour
Site ?
Basestation ?
Assigned Site
Gateway

Status
Network Status
Type
competitor
customer business
customer home
government
Group
Status Change Date
From: To:
Installation Date
From: To:
Tracking
Product
2Mb TEST Service - 2Mb/1Mb
Broadband Internet 25 GB
CODE: 1GB CAP (product description missing)
CODE: 70test1 (product description missing)

Sort Order Descending

Fig. 5.8.5.6-1. Search Box as on the customer's page

5.8.6 Example Ticketing Workflow



The Installer Tracking Feature (ITF) allows the operator to assign maintenance jobs, in particular installation and repairs, to particular installers and track when those jobs have been completed. It also allows the operator to assign a “value” / “cost” to each job, and track payments due to installers.

5.9 Billing issues

A billing issues log feature is provided to track all billing issues that are outstanding or are already closed for customer. It emails an MS Word Installation Status list of customers waiting for installation of maintenance work to support email address on a daily basis (each evening) and to a specified email address when triggered from webpage. This tool has been designed as an automatic billing issue communication and reminder system for operator accountants. Billing issue log managing page (Fig. 5.9-1) can be accessed from ‘customers’ page (Fig. 5.1-1) by accessing ‘Billing issues’ link.

The log can be viewed as a complete list of billing issues for all customers or only as a list of issues for a specific customer.

- 1) To view log for all customers click on the ‘Billing issues’ link on the customer search Page (fig. 5.1-1)
- 2) To view log for a specific customer click on the ‘Billing issues’ link on the Customer Details Page (fig. 5.4-1)

If there is more than one billing issue in the log issues will be displayed as a list view (fig. 5.9-1). The view can be modified and filtered using following:

- 1) Set the ‘Number of results to display per page’ drop down menu to the desired number of tasks per page (‘All’, 10, 20, 30, 40, or 50).
- 2) Use the ‘Results to be displayed’ drop down menu to display ‘All’, only ‘Open’ or only ‘Closed’ tasks.
- 3) Sort tasks by values in columns, by clicking on the column heading the tasks.

New billing issues can be added by clicking on “Add a new entry” link. This link can be found either under the list of all billing issues (if the billing issues list for all customers is browsed) or under the list of billing issues for one customer (if the billing issues list for a specific customer is browsed) (more details on adding new maintenance tasks in section 5.9.1).

Add a new issue

Billing Issues

Customer's name ?

Invoice ID list ?

Invoice ID ?

Date Reported ?

Reported By ?

Issue Type ?

Description ?

Resolution ?

History ?

Priority ?

Status ?

Date Closed ?

Update Issue Details > ?

Mr Guo - MrGuo

Add

Delete

22/09/2015

aleksandra

3

open

[Back to the billing issues page >>](#)

Figure 5.9-1 “Add Issues” page.

Data that can be included in the billing issue log are explained in table 5.9-1:

Table 5.9-1

Field	Description	Mandatory	Format
Issue Number	Non-editable field. Unique issue number assigned by SIMPLer.	Yes	Number
Customer's Name	Customer name field from customer details. If the billing issue is opened from the search page this will be a drop down menu from which a specific customer can be selected If billing issue is opened from a specific customer details page this will default to that specific customer name	Yes	Select from option in drop down menu.
Invoice ID list	Invoices that belongs to particular customer. This list is updated each time 'Customer's name' field will be changed	-	Dropdown list
Add button	Pushing that button will add invoice selected in 'invoice ID list' field to Invoice ID field	-	Button
Invoice ID	Invoice list regarding which this billing issue exists	Yes	Dropdown list
Delete button	Pushing that button will remove invoice currently selected	-	Button

Field	Description	Mandatory	Format
	in 'invoice ID' field		
Date Reported	By default set to current date but can be edited if required	Yes	DD/MM/YYYY
Reported By	Name of the person who reported the fail	Yes	Standard Characters.
Issue Type	Billing Issues can now be assigned a type. These types can be defined and customised to the operator's needs by going to Users >> Billing Issue Types.	Yes	Dropdown list.
Description	Free text field to record a description of the issue reported	Yes	Free Text
Resolution	Free text field to record details on the action taken to resolve the issue	Yes	Free Text
History	Non editable text field containing history of changes made into description and resolution field	-	Not applicable
Priority	Drop down menu to allow a priority to be set for the task. Billing issues listed on the status notice sent are sorted according to the priority level. The lower number, the higher priority, thus highest priority is 1.	Yes	Select from option in drop down menu
Status	Drop down menu to select status of the issue. Select the appropriate status based on the following criteria: <i>Open</i> if the issue has not been resolved <i>Closed</i> if the issue has been resolved and no further action required <i>DDM</i> was requested for particular customer	Yes	Select from option in drop down menu
Date Closed	Date task completed	Yes (if closed)	DD/MM/YYYY

Billing Issues List

Add									
Results 1 - 112 of 112									
Status To Be Displayed : open				Type To Be Displayed : All			Number of results to display per page : All		
Issue No. ?	Customer ?	Folder ?	Invoice ID ?	Date Reported ?	P ?	Issue Type ?	Description ?	Status ?	
120	Mr.Guo			Sep 22, 2015	1		test a	open	E C H
119	Linda Butler		14787	Oct 17, 2014	1	Test	Subscriber Auto Create Billing Issue: Invoice Due	open	E C H
118	Pamela Escobar		14786	Oct 17, 2014	1	Test	Subscriber Auto Create Billing Issue: Invoice Due	open	E C H
117	Patrick Stahlman		14785	Oct 17, 2014	1	Test	Subscriber Auto Create Billing Issue: Invoice Due	open	E C H
116	Edward Simmons		14784	Oct 17, 2014	1	Test	Subscriber Auto Create Billing Issue: Invoice Due	open	E C H
115	Robert Thomas		14783	Oct 17, 2014	1	Test	Subscriber Auto Create Billing Issue: Invoice Due	open	E C H

Figure 5.9-1. "Billing issues" page

When browsing through billing issues it's good to know, that:

- 1) Clicking on the Issue number or Customer name entry opens the modify details window for that issue
- 2) 'Invoice' entry in each row links to invoice details page
- 3) There is a quick link on the right side of each row leading to details of the customer – that is useful for having reference regarding to IP settings, JSSI and Jitter graphs, equipment details etc.

5.9.1 Adding billing issue

In order to add a new billing issue:

- 1) Open the Billing Issues Details page (Fig. 5.9-1) and click on the 'Add a new entry' link. A blank maintenance record form will be displayed (Fig. 5.9.1-1).
- 2) Fill out all relevant information regarding the particular billing issue. Please refer to table 5.9-1 when having any problems with understanding field meaning.
- 3) Push 'Update Issue Details >' button to add new billing issue task

Note: You will have to change invoice status to 'Customer Follow Up' manually (functionality that will do that automatically will be added in a short while). Refer to 'modifying invoice details' part of Billing Manual for further reference.

Add a new issue

Billing Issues

Customer's name ?
 Invoice ID list ?
 Invoice ID ?
 Date Reported ?
 Reported By ?
 Issue Type ?
 Description ?

Resolution ?

History ?

Priority ?
 Status ?
 Date Closed ?

[Update Issue Details >](#) ?

Mr Guo - MrGuo

[Add](#) [Delete](#)

22/09/2015

aleksandra

3

open

[Back to the billing issues page >>](#)

Figure 5.9.1-1. "New Billing issue" page

5.9.2 Deleting billing issue

In order to delete a billing issue:

- 1) Open the Billing Issues page (Fig. 5.9-1) to display the list of billing issues.
- 2) Click on the 'Issue Number' or 'Customer' entry for the billing issue to be edited (note, that clicking invoice number opens 'invoice details' page). This will open the record for that billing issue (Fig. 5.9.3-1).
- 3) Click on the 'Delete Issue' link.

We strongly recommend not deleting any data, unless it was entered by mistake.

5.9.3 Clearing/modifying billing issue

In order to modify a billing issue (***For Example:** when changing the status to closed*):

- 1) Open the Billing Issues page (Fig. 5.9-1) to display the list of billing issues.
- 2) Click on the 'Issue Number' or 'Customer' entry for the task to be edited. This will open the record for that billing issue (Fig. 5.9.3-1).
- 3) Edit the fields as required as outlined in Table 5.9-1. Normally this task is about updating description, changing priority or status of the billing issue (clearing billing issue) into closed. Remember to change invoice state manually to 'failed' from 'customer follow up' (functionality, that will do that automatically, will be added in a short while).
- 4) Click on the 'Update Issue Details' link

Figure 5.9.3-1. "Modify billing issue" page

5.9.4 Billing issues Email

A list of the billing issues can be provided to operators via the automatic status email that is sent to designated email addresses each evening. This email can be used to notify the installer(s) of billing. The file is automatically generated and contains details concerning billing issues. An example Billing issues email is shown on figure 5.9.4-1.

It is also possible to send a Billing issues email containing the latest available information in the database by clicking on the " Send Billing Issues >>" link on the Search page (fig 5.1-1) and entering the destination email in the box provided.

Folks,

Attached is the list of the billing issues currently open.

If you have any questions or need further help on any of the contents, please do not hesitate to contact us.

*John O'Hare
Azotel Technologies Ltd,
River House,
Blackpool,
Cork,
Ireland.*

Modify an issue

Billing Issues

Issue Number ?
 Customer's name ?
 Invoice ID list ?
 Invoice ID ?
 Date Reported ?
 Reported By ?
 Issue Type ?
 Description ?

Resolution ?

History ?

Priority ?
 Status ?
 Date Closed ?

Update Issue Details > ?

119
 Linda Butler - Butler139
 Add
 14787 (2012-02-04) - posted Delete
 17/10/2014
 SAND
 Subscriber Auto Create Billing Issue: Invoice Due
 [2014-10-17 sand]
 Auto-opened by SAND
 1
 open

Delete issue ?

[Back to the billing issues page >>](#)

Figure 5.9.4-1. "Example Notification email" page

5.10 Mass Email Notification

Mass email notification is a functionality that allows operators to send out emails to their customers directly from SIMPLer. It can be helpful in many situations, such as maintenance of network nodes, etc. We strongly advise to use it with caution as sending emails to all customers can be the improper thing in certain circumstances. With 'mail to' field, there is a possibility to specify to which those emails will be sent. To access this facility, first go to 'customers' page from the main menu, then select the 'mass email notification' link, which can be found in the maintenance section of the customers page (Fig. 5.1-1). The 'mass email notification' page (Fig. 5.10-1) consists of the following fields:

Field	Description	Mandatory	Format
Mail to	Radio button group to choose a group of people to which email will be sent, there are five positions: 1) Enter manually - manually enter email of customer who is going to be sent email to 2) Specify Criteria – • Customer Status – pick customer who is going to be sent email to • Only Marketing Group Enabled? - • WIB number – pick WIB client to which customers email will be send • Access Point – customers of selected AP	Yes	Dropdown list

Field	Description	Mandatory	Format
	will be sent an email (works based on colours) • Product Code – customers subscribed to the same product code will be sent an email • Product Description – customers subscribed to the same product description will be sent an email.		
From (To)	Email address of sender. Operators email address will appear in both the From and To fields of the email.	Yes	Standard letters and or numbers and special signs. Must be valid email address
Group Bcc:	Email group to which the mass email will be sent	Yes	Standard letters and or numbers and special signs. Must be valid email address
Cc	Email address to be used as Cc in sending out emails.	No	Standard letters and or numbers and special signs. Must be valid email address
Bcc	Email address to be used as Bcc in sending out emails.	No	Standard letters and or numbers and special signs. Must be valid email address
Subject:	Subject of email.	Yes	Letters and or numbers and or special signs.
Message	Body of text of message to be sent out.	Yes	Letters and or numbers and or special signs.
Formatting	Plain Text – Allows the input of plain text. The text cannot be formatted but blank lines are retained. HTML Code – Allows the input of HTML code. This will be rendered in the email. Rich Text – Allows the input of rich text using an editor.	N/A	Radio Buttons
Attach files	Three fields to be used for attaching files to sent emails. Use Browse button to select files. Don't overuse that functionality	No	Button
Send	Button for sending out emails. Please do think twice before sending out email for many people	No	Button

Mass Notification

Sending options

Mail to: ?

☐ Enter email addresses manually (separate multiple email addresses with commas)
☐ Specify criteria
☒ Customer Search Results

Send an email

From (To): ?

Group Bcc: ?

Cc: ?

Bcc: ?

Subject: ?

Message:

☒ Plain Text ?
☐ HTML Code ?
☐ Rich Text ?

Note: **UTF8** is the Character Encoding used both on this page and in emails sent out. Best practise is to make sure that the HTML meta tags match this setting as otherwise some email clients might not work well with special characters on the submitted html code.

Note: Following set of dynamic variables can be used in email bodies with **Specify Criteria** option - they will be replaced with their respective values accordingly to the customer account details:

%%CUSTOMER_NAME%%
 %%CUSTOMER_NICKNAME%%
 %%CUSTOMER_INVOICINGID%%
 %%CUSTOMER_EUP_USERNAME%%
 %%CUSTOMER_EUP_PASSWORD%%

Footer: ?

Attach files: ?

No file chosen
 No file chosen
 No file chosen
 Max file size allowed 2MB (total size of the files)
 Only alphanumeric characters, '-' or '.' are allowed in the file name
 Extensions allowed: txt pdf doc xls htm html dat gif jpg png

?

[Back to the Customers page >>](#)

Figure 5.10-1. "Mass email notification" page

5.11 Delete customer account

In order to delete a customer account, the customer status must be set to **"unused"** (you have done this already), and there must be no references to the customer account from other tables. This means that all CPE devices, IP addresses, invoices, maintenance issues and subscription details must be removed. Details on how to do each of these are given below:

1. **CPE details:** Click **"modify"** on the customer details, and go to the **"Network details"** tab. On the **"Equipment nickname"** drop down, select the blank entry. Click **"OK"** on the warning dialog that comes up. Click **"Update Customer"** at the end of the page.
2. **IP addresses:** Click **"modify"** on the customer details. Scroll to the end of the page and click **"Modify IP table"**. Delete any IP addresses that are listed using the **"Delete"** button on the right hand side. When finished, click the **"Update IP table>>"** button at the end of the page. Click **"OK"** on the warning dialog.
3. **Invoices:** Click **"Invoice details >>"** link on the customer details page. If any invoices are listed, click on the invoice number, then click **"Modify Invoice >>"** and finally click on **"Delete"** at the end of the page. Click **"OK"** on the warning dialog.
4. **Maintenance Issues:** Click **"Maintenance >>"** link on the customer details page. IMPORTANT: From the **"Status to be displayed"** drop down, select **"All"**. If any issues are displayed, click on them and then click **"Delete"** at the end of the page. Click **"OK"** on the warning dialog.
5. **Subscription details:** Click **"Subscription details >>"** link on the customer details page. If there are any products listed on the bottom of the page, click on each of them in turn and click **"Delete"**

at the bottom. When you are finished, and there are no products left in the bottom box, click **"Update Subscription Details >>"** button about half way down the page. Click **"OK"** on the warning dialog.

Once you have done all this, and once the customer status is **"unused"**, a **"Delete customer"** link should appear on the left hand side of the customer details page - click this to delete the customer record.

The screenshot shows a web interface for customer management. On the left is a sidebar with a menu. The 'Invoicing' section is expanded, showing options like 'Custom Invoice', 'Invoices Details', 'Subscription Details', 'Credit Card Details', 'Bank Account Details', 'Prepayments', 'Credits', 'Free Service Bonus', 'Statement', and 'Billing Issues'. Below this is the 'Network' section, which includes 'Modify Network Details', 'Modify IP Table', 'Modify Equipment', 'Modify Radius', 'Delete customer' (highlighted in red), and 'Maintenance'. The main content area on the right shows customer details. At the top, the 'Status' is 'unused' (in red) with a note 'Changed: 14/11/11'. Below this is a 'Financial Summary' table with three rows: 'Prepayments (Amount Remaining)' at USD 0.00 CR, 'Credits (Amount Remaining)' at USD 0.00 CR, and 'Customer Balance' at USD 0.00 DR. Further down is the 'Address' section with fields for 'Billing Address', 'Street', 'Town', 'Country', 'Installation Area', 'Community Code', and 'GPS Coordinates'.

Figure 5.11. Delete customer link

5.12 Customer Email Integration

A new feature has been added to the SIMPLer system that allows operators to pre-populate their Email clients with customer email addresses, defined cc email addresses and the subject field with the customer's nickname. This will allow to group customers on the operator's email account and will enhance the search of email history between the operator and their customer.

In order to enable this feature please follow the following steps:

Step One: Click on Settings -> Modify WISP to open global WISP settings page (see fig. 5.12-1)

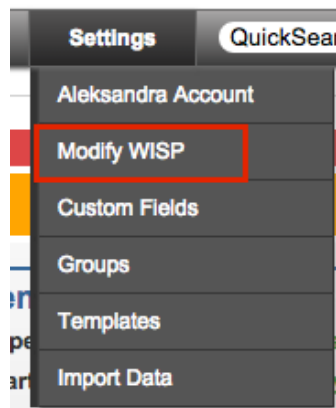


Fig.5.12-1. "Settings -> Modify WISP"

Step Two: Under the "SIMPLer settings" section there will be three new options displayed (see fig. 5.12-2):

Feature: Customer Email Integration

Customer Email Integration - Add nickname to email subject	off	?
Customer Email Integration - CC Addresses List	test@gmail.com	?
Customer Email Integration - Gmail Master Account Label		?
Customer Email Integration - Show Gmail Link	off	?

Fig. 5.12-2. New "Customer Email Integration" options

Customer Email Integration - Add nickname to email subject:

If turned on, when you click on the customer's email in SIMPLer, the email subject will be pre-populated with customer nickname in format: [nickname].

Customer Email Integration - CC Addresses List:

Defines list of email addresses that should be cc'ed when sending emails to the customer. (See Fig.5.12-3 for example of cc address.)

Customer Email Integration - Show Gmail Link:

Enables link on the customer account to the Gmail account file filtered based on [nickname]

Customer Account (modify...) (history...)

Customer ID 51
Invoicing ID testss
Nickname **testss**
Name testss [pawel@azotel.com]
Status installed Changed

Contact Details (modify...) (history...) (maillog...)

Email VCard Google Contacts Sync
Email **emma@azotel.com**
Accounts Email emma@azotel.com
Supports Email [testss]

General (modify...) (history...)

Type customer home
Start Date 08 Feb 2010
Initial Contact Date 08 Feb 2010
Installation Date 08 Feb 2010

Financial Summary

Prepayments (Amount Remaining)
Credits (Amount Remaining)
Customer Balance

Address (modify...) (history...)

Email Composition:

To: emma@azotel.com
Cc: support@azotel.com
Subject: [testss]
From: Emma Sadleir <emma@azotel.com>
Signature:

Fig. 5.12-3: Customer Nickname as subject

Step Three: Select from the above three options and click on "update WISP" to apply these changes. (See Fig. 5.12-4)

Back Update WISP >

Fig. 5.12-4: Update WISP

Example:

If the user has Email Client on their computer and clicks on customer email address on customer account page then email client will be populated with

- 1) Customer Email Address in "To:" section. (See Fig. 3-2)
- 2) CC Email Addresses (defined under "Customer Email Integration - CC Addresses List" as per Fig. 2-1) in "Cc:" section. (See Fig. 5.12-5)
- 3) Subject in format of [nickname] if "Customer Email Integration - Add nickname to email subject" is enabled. (See Fig. 5.12-5)

Customer Account (modify...) (history...)

Customer ID 711
Invoicing ID 711
Nickname **johndoe**
Name John Doe "Office"

Contact Details (modify...) (history...) (maillog...)

Email VCard Google Contacts Sync
Email **johndoe@email.com**
Accounts Email

General (modify...) (history...)

Type
Start Date
Installation Date

Write: [johndoe]

File Edit View Insert Format Options Tools Help

Send Spelling Attach Security Save

From: Azotel Support <support@azotel.com> support@azotel.com

To: johndoe@email.com
Cc: test@email.com
Subject: [johndoe]

Click on email address

Fig. 5.12-5 Clicking on email address opens Email Client with "To", "Cc" and "Subject" prepopulated

If "Customer Email Integration - Show Gmail Link" is enabled then on the left hand menu there is a link "Open Email Folder" under "Misc:" section visible. Clicking on this link opens new tab with Operator's Gmail account and shows emails filtered based on [nickname] only.

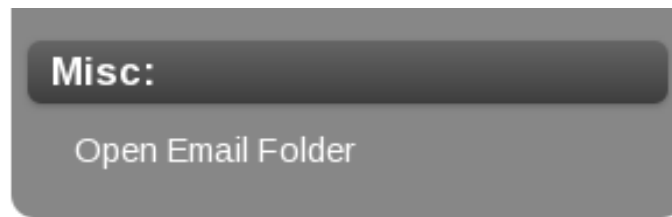


Fig. 5.12-6. "Open Email Folder" link

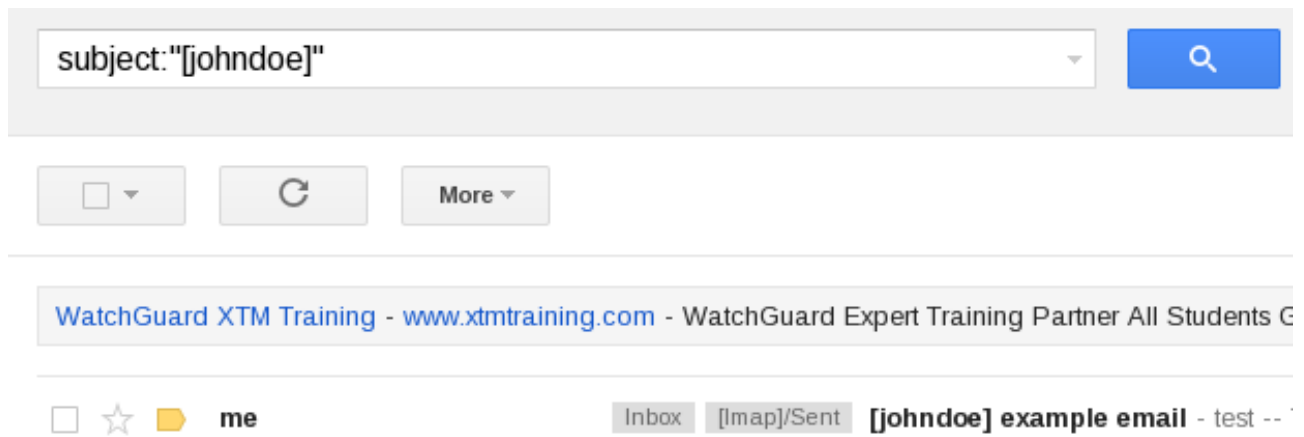


Fig. 5.12-7 Gmail Account

5.13 Customer Custom Tables

There is a feature in the SIMPLer system that allows operators to create their own defined tables under customers accounts. This will ease tracking additional customer information that is not included into main customer details / tables. Customer Custom Table content can be printed out on Work Orders.

To create new custom table please follow the steps below:

Step One: Go to the "Settings -> Set up Custom Fields" page (see fig. 5.13-1)

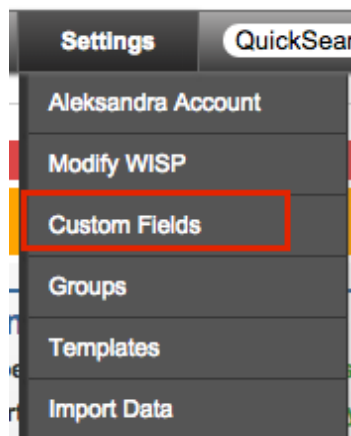


Fig. 5.13-1 Settings -> Set up Custom Fields

Step Two: a) For every field that should be added to the custom table - from "Availability" option select "Customer Custom Table". (see fig 5.13-2) This will allow you to define a new custom table.

- c) To define a custom table, add the custom table name to the "Table Name" field (see fig. 5.13-2). Please note that fields that should be incorporated into one table should have the same table name defined. You can define multiple custom tables.

General:	Label	Field name that will be displayed on the form
Customer Fields Spreadsheet >> ?	Note	Additional information on the field, it will be displayed as a help box
View Change History >> ?	Type	Available input control types
	Options	Elements of given control type, use comma as a delimiter
	Default value	Use one of defined options or constant value (optional)
	Mandatory	Field must be provided when submitting the form
	Locked	Field cannot be modified directly by user (reserver for SIMPLer system use)
	Availability	Field available on the selected page
	Custom Table Name	Name of created custom table

Custom Customer Fields ?

ID ?	Label ?	Note ?	Options ?	Default value ?	Length ?	Type ?	Mandatory ?	Locked ?	Availability ?	Custom Table Name ?	
1	MothersMaiden					textfield	yes	no	customer custom table	personal	Delete
2	Birthday					date	yes	no	customer custom table	personal	Delete
3	UPS					textfield	no	no	customer custom table	personal	Delete
4	Occupation					textfield	no	no	customer custom table	personal	Delete
5	Vat Number					textfield	no	no	customers		Delete
6	Contract		None, 2 Year, 1 Year, 6 Month	2 Year		scrolling_list	yes	no	customer custom table	contract	Delete
7	Start Date					date	no	no	customer custom table	contract	Delete
8	Notes					textfield	no	no	customer custom table	contract	Delete
9	Test					textfield	no	no	sites		Delete
10	Voice Identifier	FreePbx Account Number			20	textfield	no	no	customers		Delete

Fig. 2-1. Defining Custom Tables

- d) Once your custom table is defined it should display at the bottom of your customer account (see fig. 5.13-3)

Customer Custom Tables

Emma Test, EmmaTest1

QuickSearch ...

Contract Details

Contract

2 Year

1 Year

Start Date

Sep 24, 2013

Jan 14, 2014

Notes

Notes on T & Cs of contract

xyz

Personal Details

MothersMaiden

Xyz

Birthday

Mar 01, 2013

UPS

gujyfyf

Occupation

fdkdkfd

Fig. 5.13-3 Customer Custom Table

Step Three: Click on "modify" of given table to get access to the custom table modify page. (see Fig. 5.13-4) On that page you can enter multiple rows of given table as per fig. 5.13-4

Customer Details

ID	10916
Name	Emma Test
Nickname	EmmaTest1
Invoicing ID	EmmaTest1

Back Update Table ?

Customer Contract Table ?

Contract ?	Start Date ?	Notes ?	
2 Year	Sep 24 2013	Notes on T & Cs of contri	Delete
1 Year	Jan 14 2014	xyz	Delete

Add Blank Row ?

Fig. 5.13-4. Modify Custom Table page

Step Four: Customer Custom Table content can also be printed out on Work Orders. To do that it is required to update your work order template with the following code:

```
<TMPL_IF NAME=CUSTOM_TABLE_*TABLE_NAME*>
  <TMPL_LOOP NAME=CUSTOM_TABLE_*TABLE_NAME*>
    <tr>
      <td>
        <TMPL_VAR NAME=CUSTOM_FIELD_*FIELD_ID*>
      </td>
      <td>
        <TMPL_VAR NAME=CUSTOM_FIELD_*FIELD_ID*>
      </td>
    </tr>
  </TMPL_LOOP>
</TMPL_IF>
```

where

TABLE_NAME - name of table that should be displayed on work order

FIELD_ID - field id of the given field of custom table that should be displayed on work order.

5.13 Dynamic Valaues for Mass Mail

A feature has been added to SIMPLer where dynamic variables can be used in the Mass Mail. This allows operators to personalise Mass Emails that are sent to their customers.

The following set of dynamic variables can be used in email bodies - they will be replaced with their respective values according to the customer account details. The set of dynamic variables are:

- %%CUSTOMER_NAME%%
- %%CUSTOMER_NICKNAME%%
- %%CUSTOMER_INVOICINGID%%
- %%CUSTOMER_EUP_USERNAME%%
- %%CUSTOMER_EUP_PASSWORD%%

To demonstrate, we will now use the example of sending a mass email to customers to inform them of their user names and passwords.

Mass Mail can now be used to send End User Portal details to all customers (instead of sending one-by-one from customers page). To do so operators would only need to use the following Message in the mass email screen (see Fig.5.13-1).

%%CUSTOMER_NAME%%,

Welcome to the Customer Portal for "OPERATOR-NAME"

Your login URL is:

<https://SERVERNAME/CustomerPortal/login.pl?operator=OPERATORNAME>

Here are your user details:

username: %%CUSTOMER_EUP_USERNAME%%

password: %%CUSTOMER_EUP_PASSWORD%%

Mass Notification

Sending options

Mail to: ?

- ☐ Enter email addresses manually (separate multiple email addresses with commas)
- ☐ Specify criteria
- ☒ Customer Search Results

Send an email

From (To): ?

Group Bcc: ?

Cc: ?

Bcc: ?

Subject: ?

Message:

- ☒ Plain Text ?
- ☐ HTML Code ?
- ☐ Rich Text ?

Note: UTF8 is the Character Encoding used both on this page and in emails sent out. Best practise is to make sure that the HTML meta tags match this setting as otherwise some email clients might not work well with special characters on the submitted html code.

Note: Following set of dynamic variables can be used in email bodies with **Specify Criteria** option - they will be replaced with their respective values accordingly to the customer account details:

%%CUSTOMER_NAME%%
 %%CUSTOMER_NICKNAME%%
 %%CUSTOMER_INVOICINGID%%
 %%CUSTOMER_EUP_USERNAME%%
 %%CUSTOMER_EUP_PASSWORD%%

Footer: ?

Fig.5.13-1 Mass Notification Screen

Please note that passwords can be set on the customer account on an individual level at the following location (see Fig. 5.13-2):

Custom Fields (modify) (history) Vat Number 1234 Voice Identifier	Network Details (modify) (history) Monitor no monitor Gateway No Gateway assigned Bucket No Bucket assigned	Customer Groups 002Zone2	End User Portal (modify) (history) Open EUP Copy Link Portal Username 12348765 Portal Password Portal Not Active. Generate Password Terms & Conditions Accepted
--	---	------------------------------------	--

Change History (details) aleksandra Sep 22, 2015 08:50:00 aleksandra Sep 22, 2015 08:20:00 emma May 14, 2015 10:08:00 emma May 14, 2015 09:46:00 emma Mar 06, 2015 08:06:00	Customer Notes Note test Private Note [SIMPLer 2014-04-24] Switched to "Refer-a-Friend". Old reference field: 10917
---	--

Fig.5.13-2 Generate password

Bulk generation of passwords (without sending them to the customer) must be performed from the SIMPLer database and the procedure is to contact support@azotel.com and ask for this to be done.

There is also an option that can be set in the WISP settings so that when you add a new customer, their username and password will automatically be created and an email will be sent to this customer (as an alternative to mass emailing the details later on). See the location at Fig.5.13-3.

End User Portal Passwords

Activate Password / "End User Portal" and automatically email password to customer	on	?
Activate Password: Dynamic Password Length		?
Activate Password: Password Source	Dynamic	?
Activate Password: Static Password		?
Database Customer Password Encryption	off	?
Account Menu - Password Change Section	on	?
Allow customers without preset password to use Forgot Password	off	?
Captcha login human element verification	off	?
Change Password for Associated RADIUS Account	off	?
Hide customer defined password in email body.	on	?
New Customer - Password Change at First Login	on	?

Fig. 5.13-3. Automatically send username and password

6 Customer related actions

6.1 Introduction

There is a set of customer related actions and functionalities built into SIMPLer solution that every operator has to be aware of, as knowledge of those procedures is necessary for easy and efficient customer handling

6.2 Site Survey/Installation procedure

An Installation Status email (*outlined in section 5.7.4*) of this manual is automatically sent to designate email addresses each evening. This mail can be used to notify the installer(s) of outstanding installations. The email contains a rich text format file listing all customers waiting for installation and open maintenance tasks. The file is automatically generated and contains contact details, site address, contact date, priority level and notes taken from the database.

It is also possible to send an Installations Status email containing the latest available information in the database by clicking on the “Send Installer notification email >>” link on the Customer search page and entering the destination email in the box provided.

A typical radio network installation process looks like following:

6.2.1 Site Survey

A site survey must be first completed before the equipment is installed at the customer’s site. The purpose of this is to confirm that a connection is possible at the site and that there is sufficient fade margin to ensure a robust signal. Refer to the guidelines of the Radio Access Network manufactures on RSSI, Jitter and link quality. The survey will include the following checks:

- 1) Confirm there is a line of sight to an access point
- 2) Confirm signal strength is strong enough to make a connection at the site
- 3) Confirm that a suitable, accessible location is available to position the customer unit.

If the Site Survey **Fails**

- 1) The customer should be notified that a connection is not possible.
- 2) The ‘Status’ in the customer details record in the database should be updated to “Survey failed”.
- 3) Keep a log of events so that the customer can be revisited should coverage be improved in that particular area in the future.

6.2.2 Installation

If the Site Survey **Passes**

- 1) The installer should proceed with the installation of the customer’s equipment immediately.
- 2) The subscriber module IP must be set to one of the install IP addresses provided by Azotel.
- 3) The subscribers nickname must be entered into the ‘Site Name’ field on the subscriber module
- 4) Azotel will remotely complete the IP and Traffic Shaping configuration for the customer’s unit.
- 5) Azotel will send the Operator an ‘End User Settings’ email containing the network settings for the customer.
- 6) The operator will forward ‘End User Settings’ email onto the customer.

NOTE: There is a temptation to have the Customer up-and-running, before the installer leaves the site. Azotel recommends that Operators do not do this.

6.3 Provisioning and activating a connection

Provisioning of the subscriber module and activation of the connection will be completed automatically provided a subscriber module is installed as part of connection. If a subscriber module is not installed the connection will need to be activated manually- that is for customers, that don't have dedicated network devices, such as Alvarion or Canopy equipment.

6.3.1 Auto provisioning & activation

If a subscriber module is installed the provisioning of the subscriber module and the activation of the connection can be completed automatically. In order to achieve this, the following criteria must be met:

- 1) The customer status must be set to 'Awaiting Install'
- 2) The subscriber module must be powered up with the IP set to one of the install IPs (which are typically 192.168.[WIB number].190-199)
- 3) No equipment or customer IP has been assigned to the customer

Azotel continuously monitors the installed IPs to detect when a new subscriber module becomes active on the network. When an installed IP is detected the following steps are initiated:

- 1) A 'Customer Unit Activated' email is sent to a designated email address for the operator
- 2) A 30-minute wait period is initiated before the auto provisioning begins. This allows the installer completing the installation.
- 3) Once the 30 minutes has elapsed the nickname entered in the subscriber module 'Site Name' field will be checked against the nicknames in the operator's database.
- 4) If there is no match for the nickname in the database the operator will receive a 'Nickname Mismatch' email. If this email is received the operator should confirm that the nickname on the subscriber module and the nickname in the database match and correct if necessary. The nickname will continue to be rechecked until a match is found.
- 5) Once a match is found in the database for the nickname in the subscriber module the following auto provisioning steps will be completed automatically:
 - a) The network gateway field is set in the Network Details page in the database
 - b) A new equipment record is created in the database and equipment IP is assigned to the subscriber module.
 - c) The subscriber module distance and colour information is set in the Network Details page in the database
 - d) The subscriber module is configured with the assigned equipment IP settings
 - e) If the NAT field is set to 'ON' in the database the subscriber module will be configured to enable NAT and DHCP.
 - f) Once the subscriber module is configured it will be rebooted
- 6) The 'Status' field in the database will be automatically moved to the 'Installed' state if there are no gateway/bucket details, otherwise if those were filled already, then user status is moved to 'current'. In both cases the following steps will commence:
 - a) The customer IPs will be automatically assigned and the IP table in the database will be updated
 - b) To inform the operator that the customer is ready to be activated an email containing the network settings for the customer will be sent to the Operator.
- 7) Before activating the connection, if customer wasn't moved to 'current' state during auto provisioning due to lack of information about gateway/bucket, the traffic-shaping bucket needs to be set manually. Steps to do this are as follows:

- a) Select the Network Details link on the customer details page
- b) Select the Modify Network Details link on the network details page
- c) Choose appropriate Traffic Shaping Bucket
- d) Click Update Network Details
- e) Confirm the correct Traffic Shaping Bucket is displayed in customer detail window.
- f) The connection can now be activated by completing the following steps:
 1. Select the Modify Customer link on the customer details page
 2. Change the 'Status' field in the database from 'Installed' to 'Current'. Continue to the next page and select 'Update Customer'. The WIB will be updated automatically.
 3. Wait for confirmation message to appear after the 'Update Customer' button is selected.
 4. If an error occurs confirm the above steps were completed correctly. Contact Azotel if the error still occurs.
 5. A network details email will be sent to the designated operator email address within a few minutes.
 6. If the NAT field in the database is set to 'ON' the network details should contain a paragraph explaining that DHCP is on.

6.3.2 Manual provisioning & activation

If there is no subscriber module installed (e.g. two subscribers sharing as subscriber module) the provisioning and activation of the connection must be completed manually as follows:

- 1) The installer must contact the operator to confirm the installation is completed.
- 2) The network gateway and the traffic shaping bucket needs to be set manually in the database. Steps to do this are:
 - a) Select Network Details
 - b) Select Modify Network Details
 - c) Choose appropriate Gateway
 - d) Choose appropriate Traffic Shaping Bucket
 - e) Click Update Network Details
- 3) Confirm correct Gateway and Traffic Shaping Bucket are displayed in customer details window
- 4) The 'Status' field in the database must be moved to the 'Installed' state and the follow steps will commence:
 - a) The customer IPs will be automatically assigned and the IP table in the database will be updated
 - b) To alert the operator that the customer is ready to be activated an email containing the network settings for the customer will be sent to the Operator.
- 5) The connection can now be activated by completing the following steps:
 - a) Select the Modify Customer link on the customer details page
 - b) Change the 'Status' field in the database from 'Installed' to 'Current'. Continue to the next page and select 'Update Customer'. The WIB will be updated automatically.
 - c) Wait for confirmation message to appear after the 'Update Customer' button is selected.

- d) If an error occurs confirm the above steps were completed correctly. Contact Azotel if the error still occurs.
- e) A network details email will be sent to the designated operator email address within a few minutes.

7 Network statistics & health monitoring

7.1 Introduction

Azotel SIMPLer solution provides you with various statistic tools, to help an operator in performing its day-to-day tasks. Almost all of those can be accessed through 'stats' or customer details page.

7.2 Network health monitoring

Link to that functionality is placed in 'tools' page which can be accessed by picking 'tools' position from main navigation menu. New page is opened after clicking 'Network Health Monitor' button. The page will be automatically refreshed after a user-defined period. Network health page (fig. 7.2-1) consists of three types of monitoring fields:

- 1) Network Health Monitor (Neth monitor)– All customers that have the 'Monitor' field set to 'monitor' or 'monitor & SMS' will have their subscriber module 'pinged' approximately once every minute to confirm the subscriber module is live. If no response is received the network health monitor logs a fail for that subscriber module. The health monitor will also monitor access points and back hauls, that are set up as base stations and have 'status' field set to 'use', and will log any lack of responses from these also. When pinging particular equipment fails for some reason the equipment IP is displayed on the screen, which indicates, that there is some kind of problem. Sometimes pinging problems are connected only with temporary glitch in connection, but if device shows up for several times it means, that the device is not working properly. First thing to do after noticing a failure is trying to access equipment webpage. If that is possible, then expertise on connection state is needed. Also setting up a pingplot can be useful when trying to address connectivity problems.

Note that there is a possibility to view the Health Monitor log for an earlier date. It can be accessed after clicking 'Network Health Logger' button in 'stats' page. Enter then the start and end date in the box provided and click on the submit button.

Note that when it comes to equipment assigned to customer, only SM, for which 'monitoring status' field value is 'monitor' will be watched. All base station, for which equipments (with SMS alert if this feature has been set up for particular operator).

The NETH reporting in SIMPLer is a straightforward process aiming to provide a high-level network status:-

- The WIB pings all devices which are to be monitored approx every 30-40 seconds.
- Any device which fails to reply is reported to the SIMPLer server.
- A cron job runs every 5 minutes on the SIMPLer server and examines the data received from the WIB in the previous 5 minutes and applies some rules (see below) to decide if a device has started failing, is still failing or has restored to service, and generates any alerts required.

In general if you see a large number of failures being reported at once, then it typically means that there are issues with a backhaul (or access point) between the WIB and the rest of the network. In this case the WIB would be seeing failures (as it cannot ping the equipment), but someone pinging from the core of the network might not see any such issues as they are not traversing the same path. Check the backhaul graphs to see if any are "saturating".

Regarding the NETH algorithm, it operators like this (the values quoted below are the default values, and can adjust if required by Azotel admin):

- A device is deemed to have started failing if there are more then 5 failures logged AND the time from the first failure to the most recent failure is greater than 5 minutes (i.e. the device must have been reported as failing for more than 5 minutes, and there must have been more than 5 failures during this time).
 - A device is deemed to be still failing if there were any failures reported during the 5 minute period.
 - A device is deemed to have restored when there are no failures reported for it for the last 45 minutes.
- 2) WIB xxx connections – In addition to this the Health Monitor number of connections for each gateway. This window shows details on traffic that is going through each of WIB Client interface. Analysing this data can be useful when chasing up computer virus cases.
 - 3) WIB xxx top 10 – this window displays the Top 10 current users for each gateway. That is more than useful information when chasing up biggest bandwidth 142preads that are hanging of particular WIB Client.

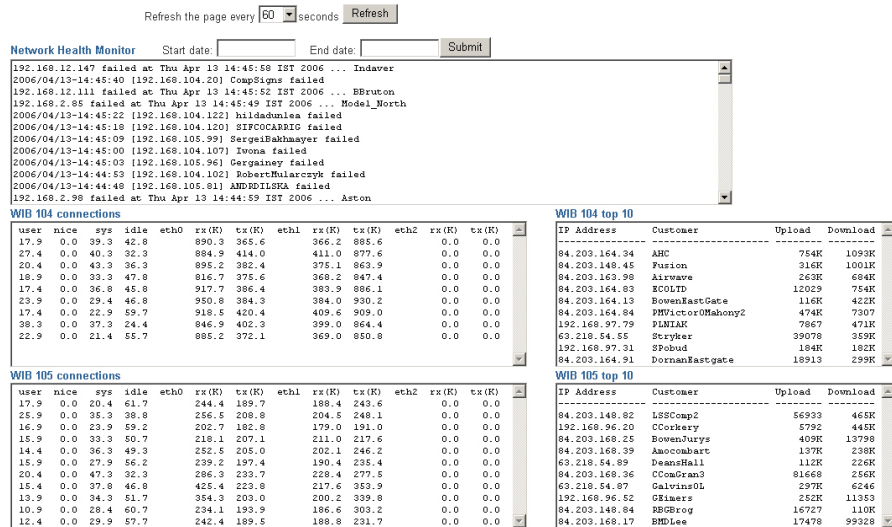
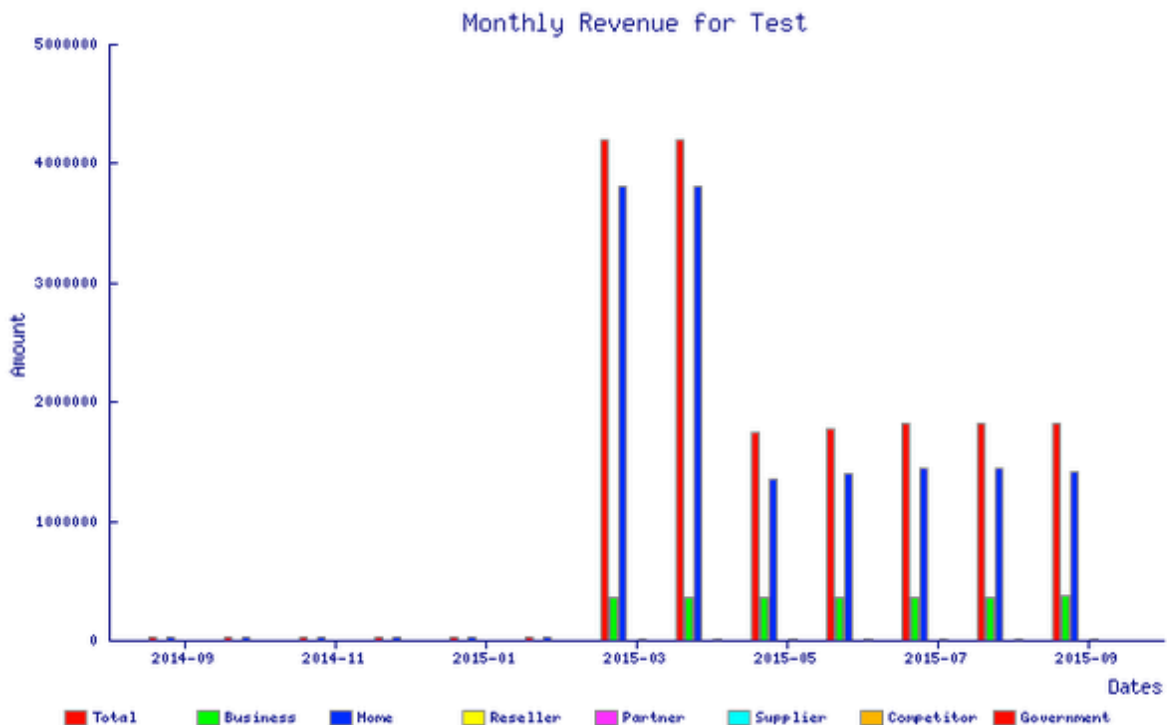


Figure 7.2-1. "Network Health Monitor" page

7.3 The monthly revenue

Link to that functionality is placed in 'dashboard' page which can be accessed by picking 'dashboard' position from main navigation menu. The Monthly Revenue shows the total monthly revenue provided by the active customers. This is further broken down into revenue from Business customers and from Home customers. By selecting the 'Monthly Rev - Graph' button a graph showing the trend in monthly growth of Total, Business and Home customer revenue is displayed. By selecting the 'Monthly Rev - Table' button a table showing the actual revenue each month from Total, Business and Home customers is displayed (fig. 7.3-1).



[Download](#)

Results 1 - 167 All 167									
Date	Total	Business	Home	Reseller	Partner	Supplier	Competitor	Government	Other
2001-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001-11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001-12	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-01	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-02	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-03	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-04	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-05	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-06	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-07	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-08	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-09	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-10	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-11	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2002-12	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2003-01	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2003-02	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2003-03	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2003-04	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2003-05	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2003-06	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2003-07	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00
2003-08	876.00	0.00	0.00	0.00	876.00	0.00	0.00	0.00	0.00

Figure 7.3-1. "Average revenue graph/table" page

7.4 Active Subscribers

Link to that functionality is placed in 'dashboard' page which can be accessed by picking 'dashboard' position from main navigation menu. The Active Subscribers shows the total number of the active customers. This is further broken down into the number of active Business customers and Home customers. By selecting the 'Active Subs - Graph' button a graph showing the trend in monthly growth of Total, Business and Home customers is displayed. By selecting the 'Active Subs - Table' button a table showing the actual number of active Total, Business and Home customers there was each month is displayed (fig. 7.4-1).



Subscribers Monthly Breakdown																					
Results 1 - 167		Number of results to display per page: All																			
Date	Total	Business	Home	Other	Total new	Total posted	Total Suspended	Total reconnected	Total WFI	Business new	Business posted	Business reconnected	Business WFI	Home new	Home posted	Home reconnected	Home WFI	Other new	Other posted	Other reconnected	Other WFI
2001-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001-11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001-12	19	0	0	19	19	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	0
2002-01	19	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2002-02	19	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2002-03	19	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2002-04	19	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Figure 7.4-1. "Active Customers graphs/table" pages

7.5 Average revenue

Link to that functionality is placed in 'dashboard' page which can be accessed by picking 'dashboard' position from main navigation menu. Average revenue per subscriber shows the monthly trend in the average revenue earned per subscriber. By selecting the 'Avg Rev/Sub - Graph' button a graph showing the trend in average revenue is displayed. By selecting the 'Avg Rev/Sub - Table' button a table showing the actual average revenue for each month is displayed (fig. 7.5-1).

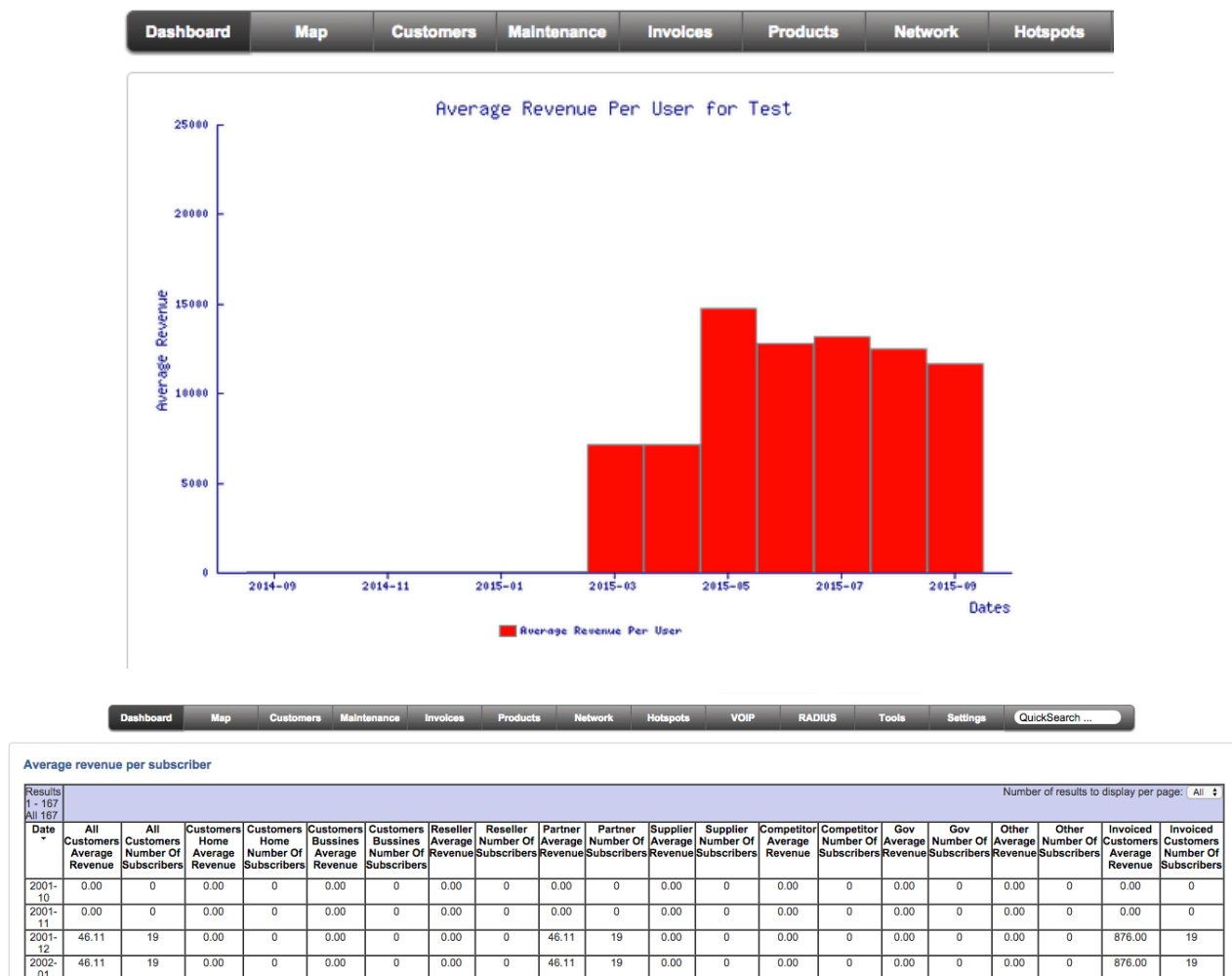


Figure 7.5-1. "Average revenue graph/table" pages

7.6 Home/business customers

Link to that functionality is placed on the ‘invoices’ page which can be accessed by picking ‘invoices’ position from main navigation menu. This link displays a table of all the active customers and allows the operator to check, and alter if necessary, the customer type between Home and Business for specific customers.

To change the customer type, click on the box provide beside the customer type under the ‘Type’ column. Once all the customers to be changed are selected click on the ‘Update customer type’ button. A page showing the number of customers changed will be displayed.

Products Campaigns Packages Revenue / customer				
Test Average Monthly Revenue ? Excluding VAT			Test Active Subscribers ?	
Total	1,823,254.29	Total	156.00	
Business	380,170.00	Business	23.00	
Home	1,422,944.30	Home	118.00	
Update customers type ?				
Results 1 - 50 of 169			Number of results to display per page: 50	
Customer ID ?	Invoicing ID ?	Name ?	Type ?	Average Monthly Revenue ?
Select All				
11002	10103285473	Amelia Tupou (TV)	☐ Home	200.00
11002	10103285473	Amelia Tupou (TV)	☐ Home	500.00
11003	10103285474	Amelia Tupou (TV)	☐ Home	200.00
11003	10103285474	Amelia Tupou (TV)	☐ Home	500.00
11004	10103285475	Amelia Tupou (TV)	☐ Home	200.00
11004	10103285475	Amelia Tupou (TV)	☐ Home	500.00
11005	10103285476	Amelia Tupou (TV)	☐ Home	200.00

Figure 7.6-1. “Home/Business customers” page

7.7 Referral fee status

Link to that functionality is placed in ‘invoices’ page which can be accessed by picking ‘invoices’ position from main navigation menu. This link provides a table of all the active customers and the status of referral fee payments if applicable. The default referral fee is calculated as the value of one month’s subscription fee for the customer. The operator may change the fee due for a specific customer on the table if required.

It is possible to change the view options to view only customers with a specific referral fee status. If this option is selected the total value displayed at the end of the Fee Due column will be the total for the customers displayed only.

In order to change the referral fee status for a customer, click on the drop down menu in the field provided in the ‘Referral Fee Status’ column. The operator may also change the Reference or Fee Due field entries on the table. If a change is made make sure the box in the first column is ticked to indicate a change was made.

When the changes are made, click on the ‘Update Referral Fee Status’ window. The records for all customers with a tick in the first column will be updated and a page showing the number of customers changed will be displayed.

Products	Campaigns	Packages	Revenue / customer
Test Average Monthly Revenue ? Excluding VAT		Test Active Subscribers ?	
Total	1,823,254.29	Total	156.00
Business	380,170.00	Business	23.00
Home	1,422,944.30	Home	118.00

Results to be displayed: All References to be displayed: Search Clear

Update Referral Fee Status

Results 1 - 3 of 3	Customer ID ?	Invoicing ID ?	Reference ?	Referral Fee Status ?	Fee Due ?
☐	10904	101			0.00
☐	10990	9087		Paid	0
☐	10957	Dianna2	EmFeb_2014 (10953)	Due	25.00
					25.00 Excluding VAT

Update Referral Fee Status

Figure 7.7-1. "Referral fee status" page

7.8 Customer traffic graphs

To view traffic on a specific customer connection (fig. 7.8-1) either enter the customer IP in the box provided, or select the customer from the dropdown menu provided and click on the 'Graph View' button. When requested enter the username and password provided by Azotel to view the graphs.

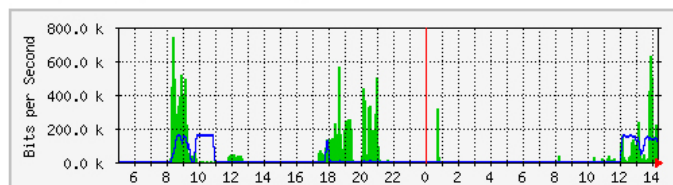
Daily, Weekly, Monthly and Yearly traffic graphs for the customer IP selected will be displayed. The green plot shows the downlink traffic and the blue plot shows the uplink traffic. If any of those lines looks flat then this particular customer is maxing out his connection restrictions.

Note: It is also possible to view the traffic graphs from within the Customer Details page (fig. 5.4-1) by clicking on the customer IP number on the page ('Network Details' part).

84.203.164.81 Traffic Data

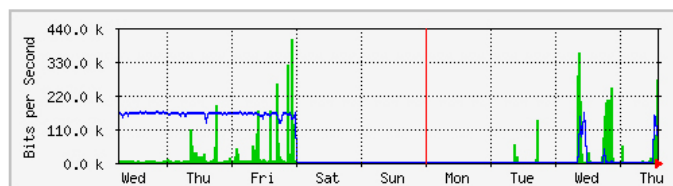
The statistics were last updated Thursday, 13 April 2006 at 14:20

'Daily' Graph (5 Minute Average)



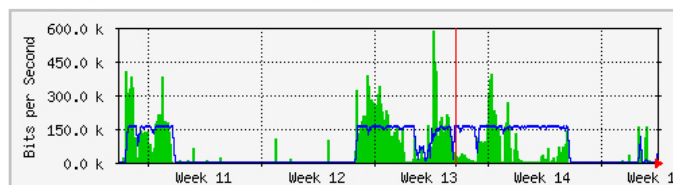
Max In: 744.5 kb/s (17.8%) Average In: 45.0 kb/s (1.1%) Current In: 184.5 kb/s (4.4%)
Max Out: 167.9 kb/s (4.0%) Average Out: 21.7 kb/s (0.5%) Current Out: 144.2 kb/s (3.4%)

'Weekly' Graph (30 Minute Average)



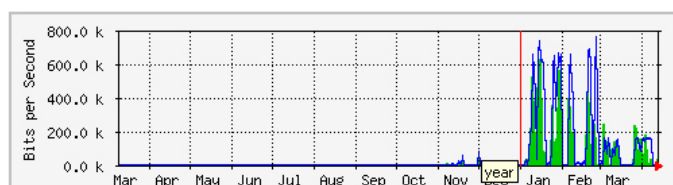
Max In: 406.0 kb/s (9.7%) Average In: 16.8 kb/s (0.4%) Current In: 273.3 kb/s (6.5%)
Max Out: 167.6 kb/s (4.0%) Average Out: 56.8 kb/s (1.4%) Current Out: 144.8 kb/s (3.5%)

'Monthly' Graph (2 Hour Average)



Max In: 589.6 kb/s (14.1%) Average In: 59.7 kb/s (1.4%) Current In: 42.8 kb/s (1.0%)
Max Out: 167.3 kb/s (4.0%) Average Out: 73.5 kb/s (1.8%) Current Out: 77.8 kb/s (1.9%)

'Yearly' Graph (1 Day Average)



Max In: 637.3 kb/s (15.2%) Average In: 74.6 kb/s (1.8%) Current In: 46.4 kb/s (1.1%)
Max Out: 766.4 kb/s (18.3%) Average Out: 122.7 kb/s (2.9%) Current Out: 15.6 kb/s (0.4%)

GREEN### Incoming Traffic in Bits per Second

BLUE### Outgoing Traffic in Bits per Second

Figure 7.8-1. "Customer traffic graphs" page

7.9 Gateway graphs

The Gateway graphs links allows the operator to view Access Point, Back Haul and WIB traffic. Clicking on the 'Network AP/BH Traffic' displays a graph showing the daily traffic graph for each Access Point and Back Haul. Weekly, Monthly and Yearly traffic graphs for a specific Access Point or Back Haul can be viewed by clicking on the Daily Graph for that Access Point or Back Haul.

To view traffic on a specific gateway select the gateway on the drop down menu provided and click on the 'View Graph' button. The daily graphs for the CPU usage, Internet Interface, Customer Interface, Connections Ids, Temperature, P2P Bucket, Internet Interface Packets/s and Customer Interface Packets/s for the selected WIB will be displayed. To view the Daily, Weekly, Monthly and Yearly graphs for each graph type click on the daily graph or on the relevant link at the end of the page.

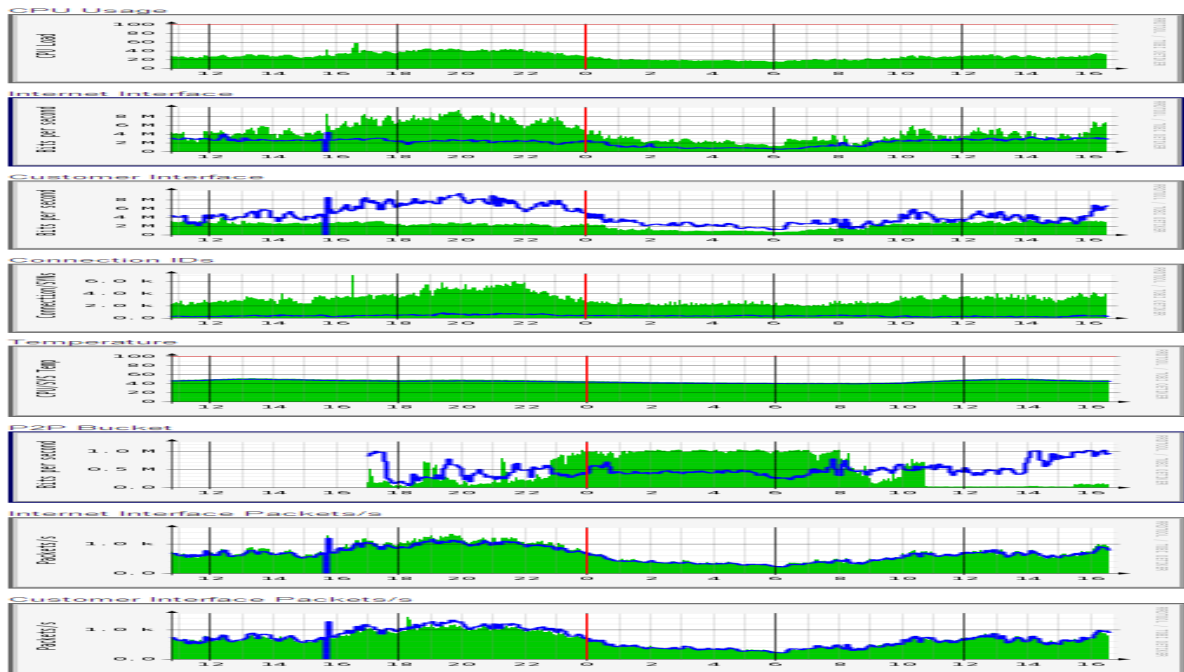


Figure 7.9-1. “Gateway graphs” page

The graphs shown on this page are:

- CPU Usage:
- Internet Interface / Customer Interface: These two graphs show the data flowing into and out of the Internet Interface (LAN1) and Customer Interface (LAN2). In general these two sets of graphs should be the mirror image of each other –i.e. any traffic flowing into LAN1 should flow out of LAN2 and v.v. If there is a large imbalance it may indicate a problem, and should be investigated.
- Connection Ids: This graph shows the number of connections and outstanding TCP SYNs that the WIB-C is tracking. Abnormally high values (especially high values of SYNs) may indicate virus activity on the network, as viruses tend to open many connections when they attempt to spread. See Annex C: Connection Tracking for more details.
- Temperature: The CPU and System temperature of the WIB-C
- P2P Bucket: If P2P traffic limiting is in operation (see chapter 4.7) this graph will show the traffic flowing through the low priority P2P bucket.
- Internet Interface Packets/s / Customer Interface Packets/s: These two graphs show the number of packets/second flowing into and out of the Internet Interface (LAN1) and Customer Interface (LAN2). As with the Internet Interface / Customer Interface graphs, these two graphs should generally be the mirror image of each other. Sometimes viruses “flood” the network by sending many small packets. If this happens you will see the number of packets/s jumping up while the traffic through the wib stays the same (or perhaps even drops) – just like the connection Ids, any sudden changes in the normal graphs might indicate a problem which is worth investigating.

7.10 List of active customers

Clicking on the ‘Get the list of equipment >>’ link allows the operator to send an email containing an excel file breakdown of details for all Backhaul, Access Point and Subscriber Modules. This file is useful when onsite and access to the database is not possible. Link to that functionality is placed in ‘tools’ page which can be accessed by picking ‘tools’ position from main navigation menu.

7.11 Analyse Gateway Traffic

7.11.1 Background

There are many protocols used on the internet, but the two main ones are known as TCP and UDP. TCP is a “reliable” protocol, and is used by things such as web browsing and email – it aims to guarantee that information you send will arrive at the destination intact. On the other hand UDP is a “best effort” protocol – it does not guarantee that the information will arrive, and the sender is expected to retry if they do not get a response – services such as DNS and VoIP tend to use UDP. Peer to peer (P2P) and viruses tend to use a mixture of TCP and UDP protocols.

Each time information flows through the WIB the WIB has to track where the information has come from and where it is going to so that it can correctly route any responses that come back. We call this relationship between the source and destination a “connection” and the number of active connection are graphed in the “connection Ids” WIB graphs (the first packet sent for a TCP connection is known as a synchronization (SYN) packet – the WIB also counts these, and graphs them (in blue) on the WIB graphs). As long as information is flowing in either direction (e.g. as long as a download is going on, or an email is being sent) the WIB keeps the connection active. When information stops flowing the WIB times out the connection and clears it. The amount of time it takes to time out connection depends on protocol used – it is a few minutes for a UDP connection and a few hours for a TCP connection.

Since holding information about each active connection takes some memory, there are only a finite number of active connections that the WIB can track. With our current firmware release it is about 30,000 active connections.

See also Annex C for more information on connections and connection limits.

7.11.2 Tool Usage and Output

The “Analyse Gateway Traffic” tool gives a snapshot of the state of the connections database on the WIB and analyses the information in several ways. As peer-to-peer, viruses and SPAM email applications often generate large numbers of connection attempts, the output from the “Analyse Gateway Traffic” tool can be used to identify their source.

To use the tool select the gateway from the drop down list and click Analyse. After a short delay an output like the sample below will appear in the “Console” portion of the page.

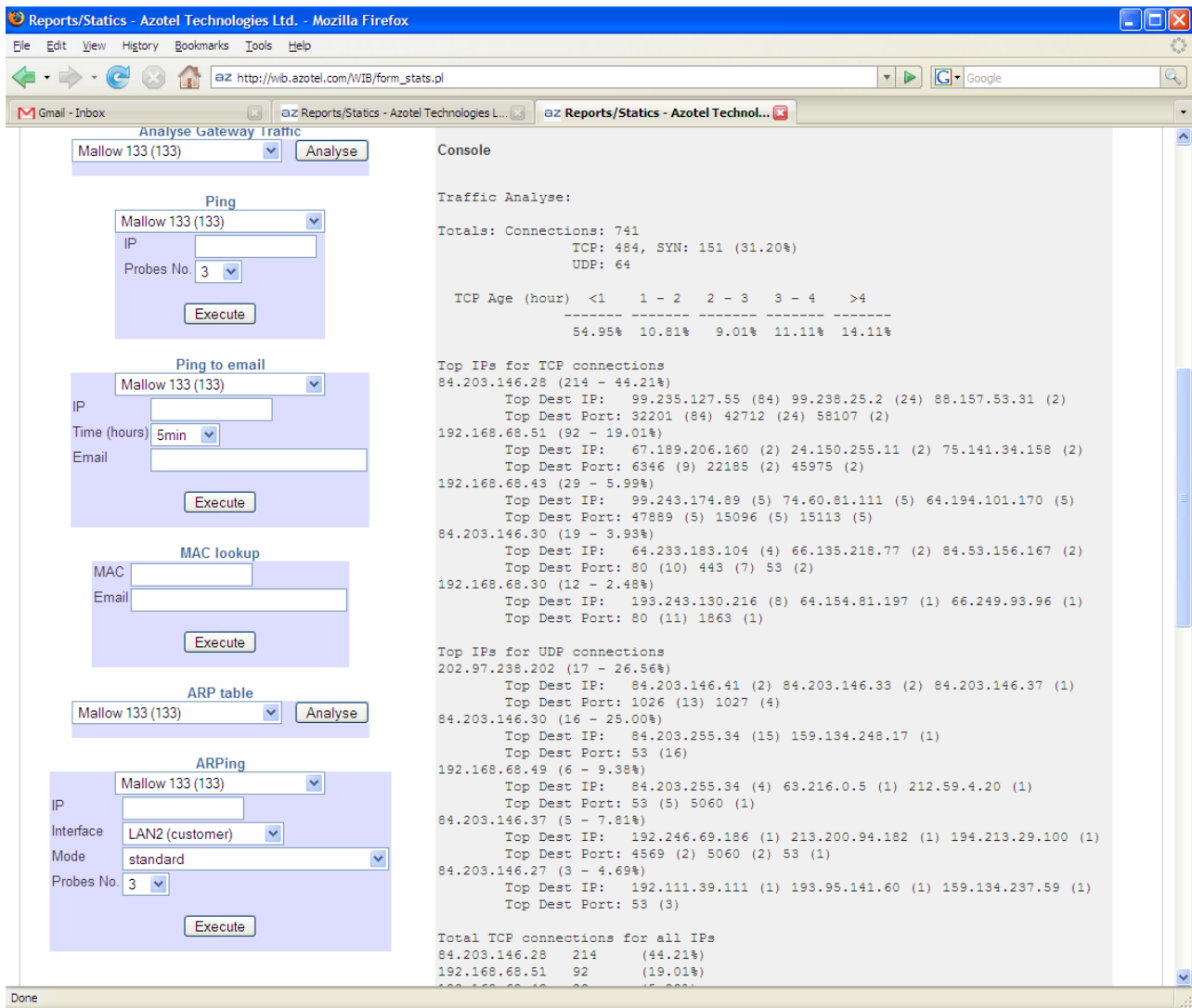


Figure 7.11.2-1 Analyse Gateway Traffic Output

The output consists of 5 sections, each of which are explained in more detail in the following sections.

7.11.2.1 Totals

Totals: Connections: 741
 TCP: 484, SYN: 151 (31.20%)
 UDP: 64

This tells us that there are a total of 741 connections being tracked by the WIB. 484 are “established” TCP connections, 151 are TCP connections which are in the “synchronization” state and 64 are UDP connections. [The remaining 42 would be connections which are in the process of being closed, or are using protocols other than TCP/UDP].

The main thing to watch out for here is the ratio of SYNs to TCP established connections (31.20% here). If this is high then it may indicate a problem as it means that there are lots of TCP connections which are trying to synchronize and are not getting to the established state. There can be a couple of reasons for this: -

- problems with an upstream gateway (i.e. traffic is not getting through),
- virus activity or
- Peer-to-peer (P2P) file sharing – viruses and P2P software often attempt to connect to many hosts at random to spread themselves. Many of these attempts fail as the host does not exist, so you see a SYN connection.

There is no hard and fast rule as to what is a good/bad value for the ratio of SYN's to TCP connections. In general on the larger networks one would expect the ratio to be under 20%. However it can go higher. You just need to get used to what is "normal" on your network, so when it changes you know that you might need to investigate. The best way to monitor it is to look at the gateway graphs (in SIMPLer click network -> Gateway details -> Graph view) – the number of connections is in green and the number of SYN's is in blue. If you see the graphs jump up (or down!) then you might need to investigate.

7.11.2.1 TCP Age Analysis

TCP Age (hour)	<1	1 - 2	2 - 3	3 - 4	>4
	54.95%	10.81%	9.01%	11.11%	14.11%

The intention of this section is to display a histogram of how long it had been since traffic was seen on established TCP connections. In general established TCP connections should be "active" – i.e. traffic should be flowing in either direction regularly. If traffic has not flown in either direction for a while (a few hours) the WIB assumes that the connection is dead and clears it. What you want to look out for is that the number of "old" connections is not too high, as again that can indicate a problem.

7.11.2.3 TCP Traffic Analysis

Top Ips for TCP connections

84.203.146.28 (214 - 44.21%)

Top Dest IP: 99.235.127.55 (84) 99.238.25.2 (24) 88.157.53.31 (2)

Top Dest Port: 32201 (84) 42712 (24) 58107 (2)

192.168.68.51 (92 - 19.01%)

Top Dest IP: 67.189.206.160 (2) 24.150.255.11 (2) 75.141.34.158 (2)

Top Dest Port: 6346 (9) 22185 (2) 45975 (2)

192.168.68.43 (29 - 5.99%)

Top Dest IP: 99.243.174.89 (5) 74.60.81.111 (5) 64.194.101.170 (5)

Top Dest Port: 47889 (5) 15096 (5) 15113 (5)

84.203.146.30 (19 - 3.93%)

Top Dest IP: 64.233.183.104 (4) 66.135.218.77 (2) 84.53.156.167 (2)

Top Dest Port: 80 (10) 443 (7) 53 (2)

192.168.68.30 (12 - 2.48%)

Top Dest IP: 193.243.130.216 (8) 64.154.81.197 (1) 66.249.93.96 (1)

Top Dest Port: 80 (11) 1863 (1)

This section shows the "top 5" users of TCP connections, and for each shows how many connections they have active, who they are trying to connect to and what ports (services) they are trying to connect to.

For example it shows that IP address 84.203.164.28 has 214 active TCP connections, which is 44.21% of the total active TCP connections on the WIB.

The "Top Dest IP" line shows the top three destinations for the connections (the number of connections is in brackets) and the "Top Dest Port" line shows the top three ports (services) that they are connecting to. (There is a good list of TCP/UDP ports in wikipedia: - http://en.wikipedia.org/wiki/List_of_TCP_and_UDP_port_numbers).

Basically what you want to look out for here is to see if any one user has many more connections active than others, and if so you can have a look at the "Top Dest Port" list to try to figure out what they are connecting to, or have running.

[as an aside, if file sharing (i.e. P2P) traffic is clogging your network, then we can switch on P2P filters for individual users, or for the network as a whole. This will try to block any file sharing activity – it is not 100% effective, but it can block most of the common P2P programs. You can also contact the offending user and ask them to stop]

It is possible that an IP listed may not be one that belongs to the WIB. What is happening in this case is that connections are coming in from outside destined for your customers. If you find that some external IP address is hammering your network with lots of connections, then you can look up who owns that IP range and contact them to ask them to stop – most likely they have a virus of some sort, or they are up to something.

7.11.2.4 UDP Traffic Analysis

```

Top Ips for UDP connections
202.97.238.202 (17 - 26.56%)
    Top Dest IP: 84.203.146.41 (2) 84.203.146.33 (2) 84.203.146.37 (1)
    Top Dest Port: 1026 (13) 1027 (4)
84.203.146.30 (16 - 25.00%)
    Top Dest IP: 84.203.255.34 (15) 159.134.248.17 (1)
    Top Dest Port: 53 (16)
192.168.68.49 (6 - 9.38%)
    Top Dest IP: 84.203.255.34 (4) 63.216.0.5 (1) 212.59.4.20 (1)
    Top Dest Port: 53 (5) 5060 (1)
84.203.146.37 (5 - 7.81%)
    Top Dest IP: 192.246.69.186 (1) 213.200.94.182 (1) 194.213.29.100 (1)
    Top Dest Port: 4569 (2) 5060 (2) 53 (1)
84.203.146.27 (3 - 4.69%)
    Top Dest IP: 192.111.39.111 (1) 193.95.141.60 (1) 159.134.237.59 (1)
    Top Dest Port: 53 (3)

```

This is similar to section 7.11.2.3 but is for the UDP protocol. The comments in section 7.11.2.4 also apply here.

UDP connection tend to be very short lived (minutes rather than hours), so the numbers you see here will typically be much lower than those for TCP connections.

7.11.2.5 TOTAL TCP connections for all Ips

```

Total TCP connections for all Ips
84.203.146.28      214      (44.21%)
192.168.68.51      92       (19.01%)
192.168.68.43      29       (5.99%)
84.203.146.30      19       (3.93%)
192.168.68.30      12       (2.48%)
192.168.68.49      10       (2.07%)
192.168.68.57      9        (1.86%)
84.203.146.31      9        (1.86%)
192.168.68.27      8        (1.65%)
192.168.68.65      6        (1.24%)
192.168.68.89      5        (1.03%)
192.168.68.21      5        (1.03%)
.....

```

This section gives a total list for all the active TCP connections on the WIB. It can be used to identify users who have large numbers of TCP connections active. Generally it is worth investigating these users, as large numbers of active TCP connections can indicate virus, peer-to-peer or SPAM activity.

7.11.3 Hints and Tips

- 1) Get used to what is “normal” for your network, and monitor it using the gateway graphs (network -> Gateway details -> Graph view). If you see a sudden change in the number of connections / SYNs use the Traffic Analysis tool to see who is doing what.
- 2) Know the usual TCP/SYN ratio on your network, and investigate if it seems unusually high.
- 3) Use the “Top Ips for TCP connections” and “Top Ips for UDP connections” displays to identify users who are generating most connections. If it is an external IP (i.e. not one of yours), then you need to try to figure out who owns that IP range and ask them to investigate why they are “attacking” your network.
- 4) Use the list of ports on wikipedia: - http://en.wikipedia.org/wiki/List_of_TCP_and_UDP_port_numbers to try to identify what applications users are running. If it is a peer to peer file sharing application, you can try blocking it by switching on P2P filtering for the user (or for the network as a whole)

7.12 Analyse Gateway P2P Traffic

7.12.1 Background

If the operator decides to allow a limited amount of bandwidth to be used on the WIB-C for peer-to-peer traffic, this tool will help to identify the subscribers who are generating P2P traffic. (See section 4.2 for details on how to enable/disable P2P blocking on the WIB-C and how to set the allowed data rate when P2P is allowed).

7.12.2 Tool Usage and Output

The “Analyse Gateway P2P Traffic” tool gives a count of the connections identified as P2P traffic for each IP address.

To use the tool select the gateway from the drop down list and click Analyse. After a short delay an output like the sample below will appear in the “Console” portion of the page. Note that this tool will only operate if P2P blocking is enabled (for one or more subscribers, or for the WIB-C as a whole) and if the P2P Allowed Rate is set to a non-zero value (see section 4.2)

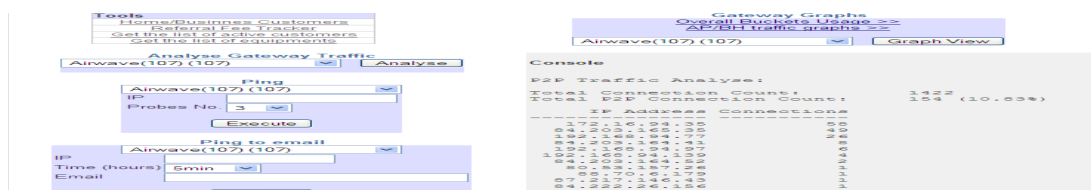


Figure 7.12.2-1 Analyse Gateway P2P Traffic Output

The output lists the number of connections that have been flagged as P2P traffic for each IP address.

7.13 Tcpdump

7.13.1 Background

tcpdump is a network analysis and monitoring tool. It allows the user to capture and display network traffic, either in real time or buffered to a file for later analysis. Powerful filters allow you to specify which traffic to capture. Further information on tcpdump may be found at <http://en.wikipedia.org/wiki/Tcpdump>. The full syntax for the filters may be found in the tcpdump manual page, which is available online at <http://linux.die.net/man/8/tcpdump>.

Some common simple filters which might be used for packet capturing include:-

“*host 192.168.1.2*” – traffic to/from the machine with IP address 192.168.1.2

“*src host 192.168.1.2*” – only traffic **from** the specified host – “*dst*” may be used for traffic **to** the specified host.

“*port 25*” – SMTP (i.e. outgoing email) traffic .

“*port 80*” – HTTP (i.e. web) traffic.

“*ether host 00:11:22:33:44:55:66*” – traffic to/from a machine with the given MAC address

Filter expressions may also be combined using “or” and “and” to form complex expressions – for example “*host 192.168.1.2 and port 25*” – SMTP traffic to/from the machine with IP address 192.168.1.2.

When used under SIMPLer, the tcpdump capture is run on the WIB-C itself, and the results are then emailed to the user for analysis. The capture file is in “PCAP” format – several tools may be used display files of this format – one of the most useful, and powerful, tool is the free application called Wireshark, which may be downloaded from <http://www.wireshark.org/>

7.13.2 Access

In order to be able to use tcpdump from SIMPLer, a user must have been given permission to use the tool within the “User Rights” section of the user configuration:

Dashboard
Map
Customers
Maintenance
Invoices
Products
Network
Hotspots
VOIP
RADIUS
Tools
Settings
QuickSearch ...

User Details

Main Details

User ID
Mail
Full Name
Status
WISP
Language
Phone
Skype

Other Details

Landing Page
Change Default Search Option

Recently Viewed Customer List

Displayed By
Numbers to be displayed

Modify password

Password
Confirm

Sales Items

Value Added Reseller
Master Agent
Regional Sales Manager

User Rights Template

Use as a Template ? ☐
Template Name
Override User Rights with:

Back
Reset
Delete
Update

User Rights

Clear All Rights
Select All Rights

Set Rights from Template:

attachments	access ✓ network information ✓	add ✓ maintenance ✓	modify not-owned ✓ sales tracking ✓	billing information ✓
billingissues	access ✓	send ✓		
credits	access ✓	add ✓	modify ✓	
customers	access ✓ mass email ✓ view bank account ✓ view EUP password ✓ cc/echeck transaction log ✓	add ✓ spreadsheets ✓ privatenote ✓ SAND - traffic ✓ send sms ☐	modify ✓ creditcard ✓ modify subscriptions ✓ SAND - invoice ✓ refund ✓	search ✓ bankdetails ✓ free service ✓ payment authorization codes ✓
customfields	access ✓	modify ✓		
dashboard	access ✓ arpu ✓ spreadsheet ✓	debtor aging ✓ subscribers ✓ form477 ✓	cash flow projection ✓ top20 ✓ pipeline ✓	revenue ✓ tickets ✓
financialtools	access ✓	cash flow ✓	lock database ✓	
gateway	WIB - access ✓ routes - access ✓	WIB - modify ✓ routes - modify ✓	buckets - access ✓	buckets - modify ✓
history	access ✓			
hotspots	access ✓ add tokens ✓	manage share plans ☐	manage hotspots ✓	manage products ✓
installers	access ✓	add ✓	modify ✓	
installertracking	access ✓	add ✓	modify ✓	list not-owned ✓
invoices	access ✓	delete ✓	mySIMPLer ✓	

lodgements	access ✓	delete ✓	modify processing date ✓	
maintenance	access ✓	send ✓	modify not-owned ✓	azotel internal ☐
	access attachments ✓	modify attachments ✓		
maintenancetype	access ✓			
map	coverage checker ✓			
network	access ✓	modCredentials ✓	site costs ✓	
notes	delete ✓			
prepayments	access ✓	add ✓	modify ✓	
products	access ✓	add ✓	modify ✓	delete ✓
quotes	access ✓	add ✓	modify ✓	delete ✓
radius	access ✓	add ✓	modify ✓	
referafriend	access ✓			
salesissues	access ✓	emails ✓	modify not-owned ✓	summary ✓
salestracking	access ✓	add ✓	modify ✓	see other members ✓
settings	payment gateways ✓ tax calculators ✓	billing issue types ✓ trigger api ☐	cronjob - access ☐	customer groups ✓
stats	access ✓			
tools	access ✓ update buckets ✓ zip ✓	autoprovision ✓ update radius ☐	reboot wib ✓ update services ✓	update wib ✓ tcpdump ✓
users	access ☐ operator details ✓ gcontact ✓	add ✓ translations ☐ disable other ☐	modify other ☐ gcal ✓	change operator ☐ rights templates ✓
voip	access ☐			

Note:
Operator: full access to WISP + can add/delete users
(3) User: same as Operator but cannot add/delete users

Figure 7.13.2-1 User Rights

Access to tcpdump should be restricted to only those users who need it, as tcpdump may cause performance issues, and can pose a security threat. See section 7.13.4 for details.

Once a user has been given user rights to use tcpdump, the tcpdump tool may be accessed by going to the “tools” page, and scrolling to the bottom of the page. A form such as the one below will appear – details of each of the fields are given in the next section.

Tcpdump

Interface

Max Data (Mb)

Timeout (sec)

Max number packets

Filter String

Email

Email Subject

Figure 7.13.2-2 tcpdump input form

7.13.3 Tool Usage

The fields on this form should be filled out as follows:-

- **WIB** – Select the WIB-C to run the dump on from the drop down list.
- **Interface** – Select the interface that the dump is to be run on – LAN2 is the customer side and LAN1 is the internet side. Note that for customers with private IP addresses, their IP address is NAT'ed to the WIB-C's public IP address when the traffic goes out of LAN1 – therefore it is not possible to trace a customer Private IP address on the LAN1 interface.
- **Max Data (Mb)** – [optional] If this parameter is specified, it gives the maximum amount of data, in megabytes, to capture. If not specified SIMPLER will capture up to 5Mb. Note that 5Mb is the maximum that may be specified – this is due to the fact that the results must be emailed, and many ISPs will not accept very large emails. If you need to capture more than 5Mb, please contact support@azotel.com for assistance.
- **Timeout (sec)** – [optional] If given, this parameter gives the max time that the dump will run for in seconds. If not specified, the dump will run for up to 30 minutes (1800 seconds). If a value greater than 1800 seconds is given, it will be truncated to 1800 seconds. If you need to run a dump for longer than 30 minutes, please contact support@azotel.com for assistance.
- **Max number packets** – [optional] If specified this limits the capture to the given number of packets. If not specified, any number of packets will be captured.
- **Filter String** – [optional] This parameter gives the filter string which controls which packets are to be captured. See section 7.13.1, or the tcpdump manual page, for examples of the expressions which may be used here. If not specified, all packets will be captured.
- **Email** – [mandatory] The email address that the capture file will be emailed to. Any valid email address is allowed.
- **Email Subject** – [optional] If given, this string will be used as the subject line in the email message containing the capture. This may be useful to differentiate between captures if several captures are being run at the same time. If not specified, as default

Once the required fields have been filled in, click Execute to start the dump. The tool will confirm that the trace has started. The trace will stop, and the results will be emailed to the specified email address, when one of the limits is reached – i.e. once one of the “Max Data”, “Timeout”, or “Max number packets” limits have been reached. An email such as the following will be received:-

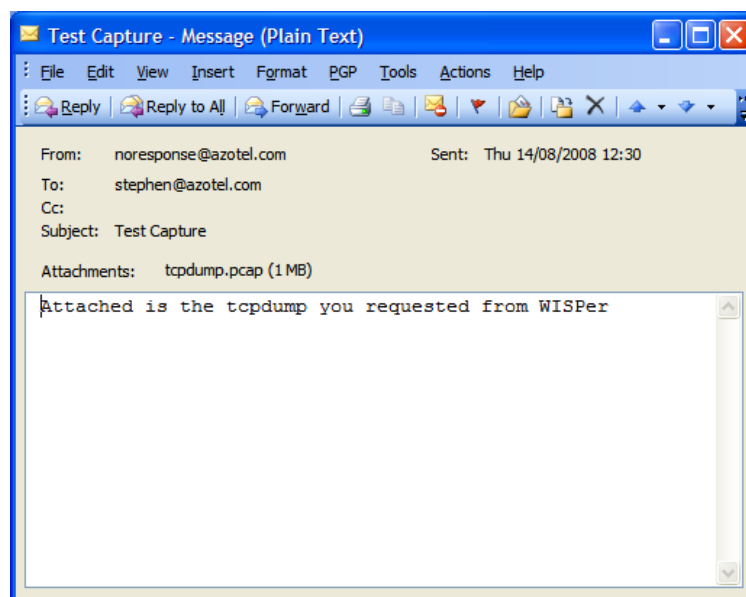


Figure 7.13.3-1 tcpdump results email

The capture file is in the attachment “tcpdump.pcap” – this may be saved to disk and opened with tools such as wireshark:

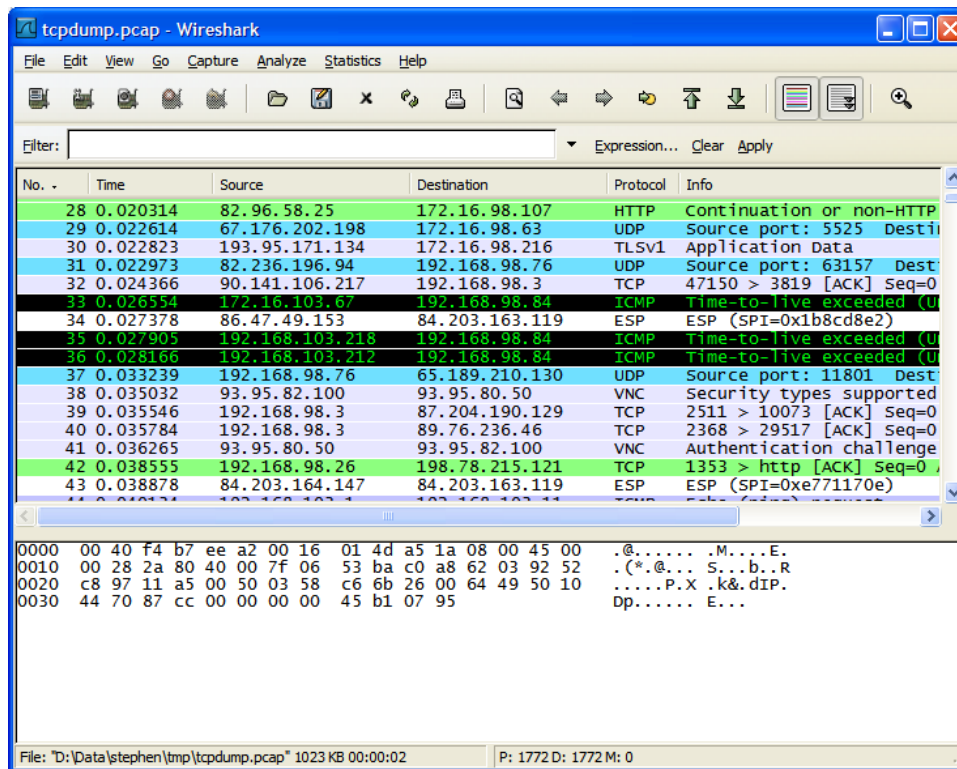


Figure 7.13.3-2 Wireshark displaying tcpdump results

7.13.4 Warnings

- Running tcpdump on the WIB-C will have an impact on the CPU usage of the WIB as the program captures and processes data. As a result of this, the number of simultaneous tcpdumps being run on a WIB-C should be limited.
- The resulting capture file must be emailed to the user. Many ISPs place limits on the maximum size of an email attachment, which may prevent the capture file from being delivered. If this happens, try re-running the capture using a smaller value for “Max Data (Mb)”
- The captured data must be transferred from the WIB-C back to SIMPLer in order to be emailed to the user. This will use bandwidth on the uplink interface of the WIB-C. If this interface is heavily loaded, or if the operator has limited upstream bandwidth, the transfer of the data may affect other users. To limit the impact, the operator should only run captures that are really required, and use filters to limit the amount of data captured – e.g. if you are investigating an email problem for a customer, use a filter such as “host a.b.c.d and port 25” to restrict the captured data.
- As noted in the previous section, private IP addresses are NAT’ed by the WIB-C before the data goes out the LAN1 (internet) interface. Therefore it is not possible to filter on a private IP address if you are using the LAN1 interface for the capture. If you need to capture data for a private IP customer, use the LAN2 port.
- Sensitive personal information, such as usernames, passwords, credit card details, names, addresses, etc., may be captured using tcpdump. As a result of this, the operator should restrict the access to tcpdump to only those users who really need it. Access to tcpdump is controlled by the “tcpdump” flag in the “User Rights” section of the user configuration page.

8 Features

8.1 Dual Gateway support

8.1.1 Overview

Dual Gateway support allows two upstream gateways to be defined for each WIB-C. One of these will be the primary gateway, and will normally be used for all traffic from the WIB-C. If the primary gateway fails, and a secondary gateway has been configured, the WIB-C will switch over to the secondary. Once the primary restores the WIB-C will switch back.

The WIB-C monitors the upstream gateways by *pinging* them once every second. If the primary gateway does not respond to a *ping* for a specified amount of time (*gateway switch time*), and if the secondary gateway is responding to *pings*, the WIB-C will switch to the secondary gateway. The WIB-C will continue to monitor the primary, and once it has been responding successfully to *pings* for (2 x *gateway switch time*) seconds, it will deem the primary back in service and switch back to it.

Note: The WIB-C does not load-share between the gateways – only one will be active at any given time, and the WIB-C will always “prefer” the primary gateway if it is in service.

8.1.1.1 Configuration – WIB-C

See the *WIB-C Quick Start Guide* for details of how to connect to the management web interface of the WIB-C.

Using the management web interface, fill in the *WIB default gateway*, *WIB secondary gateway* and *WIB gateway switch time* fields – see figure 9.2.2-1 below. If a secondary gateway is not in use, leave the *WIB secondary gateway* field blank. The *WIB gateway switch time* will default to 5 seconds if not specified.

The management web interface also shows which gateway the WIB-C is currently using, and will show the status of *pings* to the two gateways.

WIB public network settings			
WIB IP address	10.11.1.250	/ 24	
WIB default gateway [active]	10.11.1.254		Ping OK
WIB secondary gateway	10.11.1.253		Ping FAILED
WIB gateway switch time (seconds)	5		
WIB DNS	84.203.254.34		Ping OK
	84.203.255.34		Ping OK

Figure 8.1.1.1-1 WIB-C gateway configuration

Once updates have been made, click *Save* at the bottom of the page, and then *Reboot* to activate the changes.

To disable the dual gateway support feature, leave the *WIB secondary gateway* field blank.

8.1.1.2 Configuration – SIMPLer

See section 4.2 of this document for details of how to configure gateways (WIB-C) in SIMPLer. The relevant fields for this feature are *Upstream gateway* (the primary gateway) and *Secondary gateway*.

8.2 Customer Email Accounts

This feature allows operators to create, modify and delete email accounts for their customers within the SIMPLer system.

8.2.1 Requirements

To use this feature, the only requirement is that the operator must have a Google domain. The required details that Azotel need to set up this feature for a customer are:

- Domain Name
- Admin Account
- Admin Password

8.2.2 Overview

The interface is available under the “Customer Details” page. On the left hand side of the page, in the “General” section, you will see the “Email/FTP Details” link – fig. 8.3.2.1.

General:

- Modify Customer
- Sub-Accounts
- Customer Portal
- Sales Opportunities
- Email/FTP details**

Invoicing:

- Custom Invoice
- Invoices Details
- Quotes
- Subscription Details
- Credit Card Details

Customer Account (modify...) (history...)

Customer ID: 10916
 Invoicing ID: EmmaTest1
 Nickname: EmmaTest1
 Name: Emma Test
 Status: **unused**
 Changed: Sep 22, 2015
 SAND: Clear

Contact Details (modify...) (history...) (maillog...)

Email VCard
 Email: oharej@azotel.com
 Accounts Email: emma@azotel.com
 Supports Email:
 Telephone ?
 Fax
 Website
 Contacts ?

Financial Summary (statement...)

Prepayments (Amount Remaining): USD 2.88 CR
 Credits (Amount Remaining): USD 0.00 CR
 Customer Balance: **USD 0.00 DR**

Address (modify...) (history...)
 Billing Address:

General (modify...) (history...)

Type: **customer home**
 Start Date: **May 21, 2013**
 Initial Contact Date: May 21, 2013
 Installation Date: May 21, 2013
 Importance: 3
 Customer Tracking: **VIP**
 Marketing Code
 Marketing Emails: No
 Reference
 Reference Fee: 10.00
 Reference Fee Status: Due
 Sales Team Member
 Invoice Template: Other

Show Map

Fig 8.2.2.1 SIMPLer ‘Customer Details’ Page

Email/FTP Details of existing accounts are available under the ‘NETWORK’ section of the same page – fig. 8.3.2.2.

Customer Network Details Emma Test, EmmaTest1 QuickSearch ...

Network Details (modify...) (history...)

Provision Now! Provision w/o CPE
 Monitor: **no monitor**
 Gateway: No Gateway assigned
 Bucket: No Bucket assigned
 Auto-Prov IP Type: Private
 Auto-Prov IP Number: 1
 Auto-Prov NAT: Disabled
 Equipment Graphs: Disabled
 Colour:
 TCP Blocked Ports:
 UDP Blocked Ports:
 P2P Restricting: false
 TCP Connection Limit:
 Usage Blackout Period: Off

Usage Summary (Daily Usage Details...)

Monthly Allowance (CAP): 25.0000 GB
 Exempted Period Allowance: 0.0000 GB
 Subscription Allowance (CAP): 25.0000 GB
 Overage: 0.0000 GB ?
 Current Usage: 0
 Download Upload

Customer Usage Summary Graph (Daily Usage Details...)

Error: MRTG -emmatet1 target not found.

Reset usage ... Reset ALL usage

Radius Details (modify...) (history...)

Gateway Settings: RADIUS Configuration
 No Gateway assigned

RADIUS Sessions (Last 10)

ID	Username	Session Start	Session Stop	Session Time	Upload	Download	Calling Station ID	IP Address	NAS IP Address	NAS Session ID
No sessions found in the RADIUS database										

Equipment Details (modify...) (history...)

Equipment nickname: No equipment Details available

Type	IP address	MAC address	Basestation - IP: Colour ?	Real Time	Freq.
No equipment Details available					

Customer IP Table (modify...) (history...)

IP Address	Interface Label	IP Type	MAC Address	Hostname / Label	Usage Summary (Month)	Graphs
No IP Details available						

Email/FTP Details (modify...) (history...)

Username	First Name	Last Name	Status	Type
No email/FTP Details available				

Fig 8.2.2.2 Email/FTP details under SIMPLer ‘Customer Details’ Page

Clicking on the ‘Email/FTP’ details link will bring up the following page. There are two sections:

1. Customer Details

- a. ID
- b. Name
- c. Nickname
- d. Invoicing ID
- e. Account No.

2. Customer Email/FTP Table

Customer Details

ID	10916
Name	Emma Test
Nickname	EmmaTest1
Invoicing ID	EmmaTest1
Account No.	EmmaTest1

Customer Email/FTP table

Default Domain:	Username	Password	First Name	Last Name	Status	Type
Add Row						

Fig. 8.2.2.3 Email/FTP Details Page

8.2.3 Create Account

In order to create a new Email/FTP account, click the “Add Row” button.

Modifications will be applied only if you press the 'Update' button

Customer Email/FTP table

Default Domain:	Username	Password	First Name	Last Name	Status	Type
	aleksandra	*****			Active	Email
Add Row						

Fig. 8.2.3.1 Add Email/FTP Account

A new row will appear where account details can be entered. If FTP is enabled for your domain, it can be selected from the “Type” drop down menu.

Type

Email

Email

FTP

Both

Fig. 8.2.3.2 Email/FTP Account Type Selection

After adding as many accounts to a subscriber as you need, the details need to be pushed to the appropriate Email/FTP server. Click on the “Update” button to update the subscriber account and to automatically create the customer’s Email/FTP accounts.

8.2.4 Modify Account

Details which can be modified after initial creation are:

- Password
- First Name
- Last Name
- Status
- Type

In order to modify an existing Email/FTP account, edit the appropriate field.

Customer Email/FTP table

Default Domain: Username	Password	First Name	Last Name	Status	Type	
abc@abc.com	...	test	test 2	Active ▾	Email ▾	Delete
test@test.com		ZXCV	ZXCV	Disabled ▾	Email ▾	Delete

Add Row

Fig. 8.2.4.1 Modify Email/FTP Account

After modifying the customer's accounts, the changes need to be pushed to the Email/FTP server. Click on the "Update" button to do this.

8.2.5 Delete Account

To delete an existing Email/FTP account, click the "Delete" button associated with the account to be deleted.

Customer Email/FTP table

Default Domain: Username	Password	First Name	Last Name	Status	Type	
abc@abc.com	...	test	test 2	Active ▾	Email ▾	Delete
test@test.com		ZXCV	ZXCV	Disabled ▾	Email ▾	Delete

Add Row

Fig. 8.2.5.1 Delete Email/FTP Account

After modifying the customer's accounts, the changes need to be pushed to the Email/FTP server. Click on the "Update" button to do this.

8.2.6 Account Status

On the bottom of the Email/FTP page, there is an option to activate/suspend a customer's account(s). As with the other changes, you must click "Update" in order for the changes to take effect.

Customer Email/FTP table

Default Domain:	
Username	Password
cust@domain.com	

Add Row Update

Activate/Suspend Subscriber Account: Active ▾

Fig. 8.2.6.1 Customer Account Activation/Suspension

8.2.7 Default Domain

If you do not specify the default domain in the username field, a default domain will be used. The default domain can be specified under WISP Settings (users > Modify WISP). On the WISP Settings page, scroll down as far as the “Customer Email/FTP Account – Default Domain” field.

Nickname Prefix	NET1 ?
Product Based Usage Exemption	on ?
Provisioning Customer Email/FTP Account - Default Domain	?
Provisioning Customer Email/FTP Account - Enable Gmail API	off ?

Fig. 8.2.7.1 WISP Settings – Default Domain for Email/FTP

8.3 WIB groups - MultiHome support

NOTE: While this feature will work on any WIB, it is mainly intended for WIB firmware running on ImageStream routers, which support the routing protocols which make MultiHome networks possible (BGP / OSPF).

8.3.1 Overview

In MultiHome networks traffic may enter and leave the network through gateways which are connected to more than one ISP. These may be configured in a variety of ways - such as a primary/standby mode, where the traffic normally goes through one gateway, but will fail-over to another gateway in the event of a failure in the primary, or load shared mode, where the traffic is distributed between the gateways (and where any one gateway can take over all of the traffic in the event of a failure in one of the other gateways). The key feature of such networks is that it must be possible for traffic for a customer to flow through any one of a number of gateways connecting the operators network to the internet. The figure below shows a simplified sample network with two internet feeds:

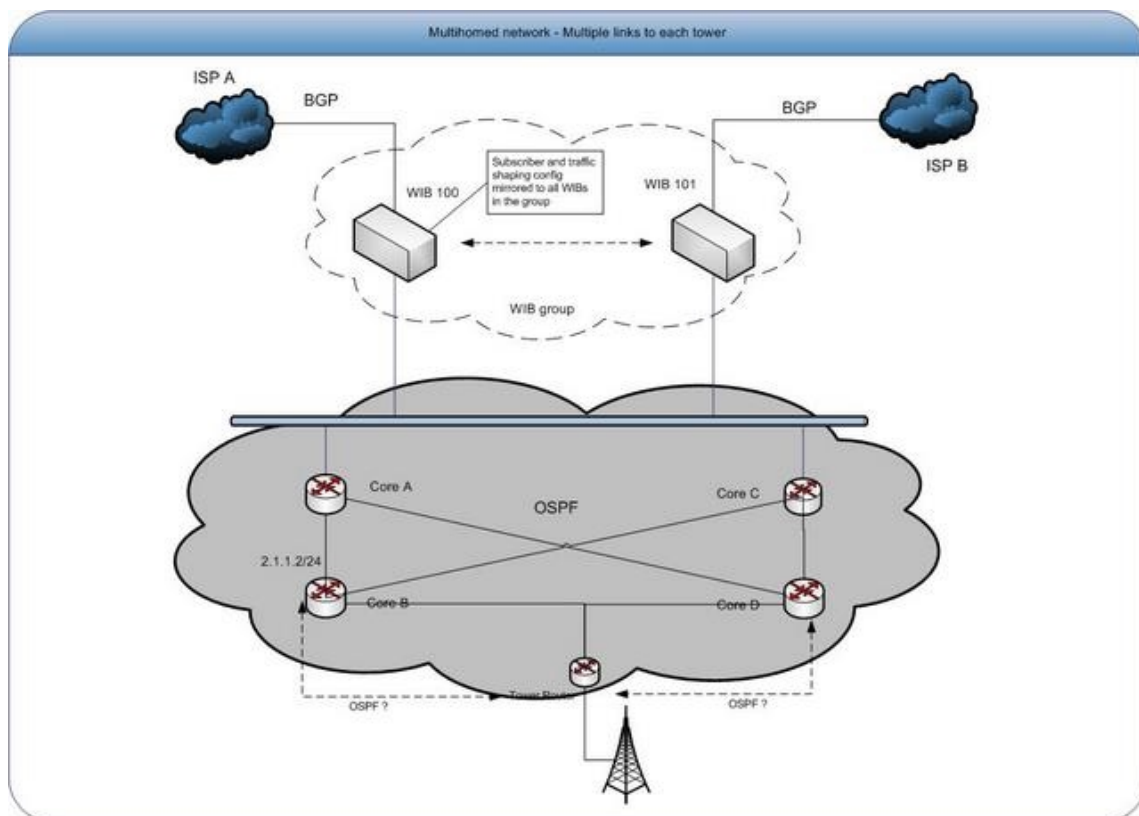


Figure 8.3.1-1 MultiHomed Network

This sample network has two feeds from ISP A (via WIB 100) and ISP B (via WIB 101). The WIBs feed into an OSPF network which provides dual-feeds to the tower sites for redundancy.

8.3.2 WIB Groups

Normally a WIB acts as a filter, and only allows through traffic for "current" customers which have been assigned to that WIB. That means, for example, traffic to/from a customer assigned to WIB 100 can only pass through WIB 100 (and so must go via ISP A). If due to dynamic routing the traffic to/from the customer was to go via ISP B, WIB 101 would block the traffic causing the customer's connection to fail

In order to allow traffic to/from customers to pass through one of a number of WIBs, the concept of a "WIB group" has been introduced. When WIBs are grouped, the customer details (i.e. the IP addresses to be allowed through), and the traffic shaping details for all WIBs in the group are merged, and downloaded to all WIBs in the group. In addition data usage for each IP is gathered from all WIBs in the group, and added to gether to get the customers total bandwidth usage. Finally, when one of the WIBs in the group are updated (tools -> Update WIB files), all of the other WIBs in the group are automatically updated at the same time - this is to ensure that the configuration of all of the WIBs in the group are kept consistent.

NOTE: only subscriber details and traffic shaping bucket details are merged - other WIB settings, such as DNATs, blocked ports, max bandwidth, P2P settings, etc. may still be set individually for each WIB in the group.

8.3.3 Configuration

WIBs may be grouped together by setting the "WIB group name" parameter on the network -> Gateway details page - see below.

The screenshot shows the Azotel management interface. At the top, there is a navigation bar with tabs: Dashboard, Map, Customers, Maintenance, Invoices, Products, Network (highlighted), Hotspots, VOIP, RADIUS, Tools, and Settings. Below this, there is a sub-navigation bar with tabs: Sites details, Base Stations details, Equipment details, Gateways details (highlighted), and Interface details. The main content area is titled 'Modify a Gateway' and contains 'Gateway Static Settings'. The fields in this section are: Name (Noida), WIB number (dropdown), Status (active), WIB Type (regular), Customer Bandwidth Usage (default), and WIB group name (Noida, highlighted with a red box). Below this is the 'Network Details' section with the Public IP address (192.168.1.130 / 24).

Figure 8.3.3-1 Configuring WIB group name

The "WIB group name" is free format, and any name may be assigned to the group - it is suggested that a descriptive name be used in the case where there are several groups in use. All WIBs which have the same "WIB group name" will be grouped together. Leaving the "WIB group name" field blank, or setting it to a unique value which is not shared with any other WIB, will cause the WIB to operate as normal, and data will not be shared with other WIBs.

When configuring the network, the operator should ensure that each WIB in the group has sufficient capacity to carry the traffic for all customers in the group.

After assigning a WIB to a group, a "tools -> update WIB files" should be carried out (on any WIB in the group) to ensure that the updated, merged, configuration is downloaded to all of the WIBs in the group.

To remove a WIB from a group, simply blank the "WIB group name" field and then update the WIB files for the WIB and for any one of the WIBs remaining in the group.

8.3.4 Summary

- WIBs are grouped together by setting their "WIB group name"
- Customer details (IP addresses, etc), and traffic shaping bucket details for all WIBs in the group are merged together and downloaded to all WIBs
- Customer traffic usage data is gathered from all WIBs in the group and added together to get the overall customer data usage.
- Updating WIB files for any one WIB in the group will automatically update the WIB files for all other WIBs in the group.

8.4 Customer groups

8.4.1 Overview

Customer groups feature allows operator to create custom group definitions. A customer account can be assigned to multiple groups. The groups than can be used to generate custom searches

8.4.2 Customer Groups

Customer groups can be defined from the “**Groups**” page located in the “**Customer**” section of the “**Settings**” page in the SIMPLer system.

User ID	Email	WISP	Status	Disabled User	
		allpaytest:	(3) User	☐	E H
		test: New label	(2) Operator	☐	E H
		allpaytest:	(2) Operator	☐	E H
		test: New label	(2) Operator	☐	E H
		test: New label	(3) User	☐	E H
		test: New label	(3) User	☐	E H
		test: New label	(2) Operator	☒	E H
		test: New label	(3) User	☐	E H
		test: New label	(3) User	☐	E H
		test: New label	(3) User	☐	E H
		test: New label	(2) Operator	☐	E H

Figure 8.4.2-1 Accessing the “Customer Groups” page

Each group entry is defined by two parameters:

- **Name** – (mandatory) unique group name under which it will be represented in SIMPLer. The name parameter will be used to generate search boxes
- **Description** – this attribute is optional. It can be used to add a description to the group

Note: The feature will remain disabled unless there is at least one group defined under the operator account

Back Update Table ?

Customer Groups

ID ?	Name ?	Description ?	
4	001ZoneA	test 1	Delete ? Settings ?
5	002Zone2	abc def	Delete ? Settings ?
3	003Zone3	test 2	Delete ? Settings ?
6	New	New Group	Delete ? Settings ?
1	Vac001	Vacation Customers	Delete ? Settings ?

Add Blank Row ?

Figure 8.4.2-2 “Customer Groups” page

8.4.3 Customer Page

“*Customer details*” page lists the groups customer is assigned to in the “*General*” section.

Custom Fields (modify_) (history_) Vat Number 1234 Voice Identifier	Network Details (modify_) (history_) Monitor no monitor Gateway No Gateway assigned Bucket No Bucket assigned	Customer Groups 002Zone2	End User Portal (modify_) (history_) Open EUP Copy Link Portal Username 12348765 Portal Password Portal Not Active. Generate Password
Change History (details_) aleksandra Sep 22, 2015 08:50:00 aleksandra Sep 22, 2015 08:20:00 emma May 14, 2015 10:08:00 emma May 14, 2015 09:46:00 emma Mar 06, 2015 08:06:00		Customer Notes Note test [SIMPLer 2014-04-24] Switched to "Refer-a-Friend". Old reference field: 10917 Private Note	

Figure 8.4.3-2 “Customer Details” page

Groups customer is assigned to can be defined under the “*General*” tab of the “*Modify Customer*” page.

Note: Multiple groups can be assigned to the customer account. Click the group names holding the CTRL key to select multiple positions

General

Contact details

Banking details

Network details

Custom Fields

Customer Identification

Name ?

Emma Test

*

Invoicing ID ?

EmmaTest1

Nickname ?

EmmaTest1

*

Group ?

001ZoneA

002Zone2

003Zone3

New

Vac001

Note: To select multiple groups Ctrl + Click on each group name.
To unselect a group simply Ctrl + Click on the name again.

Value Added Reseller ?

⬆

Master Agent ?

⬆

Regional Sales Manager ?

⬆

Sales Team Member ?

⬆

Figure 8.4.3-2 “Modify Customer” page

8.4.4 Customer Search

The group parameter can be used to generate customized searches.

Note: If no group is selected the “*group*” parameter will be left out in the search

Figure 8.4.4-1 “Search Engine” page

8.5 Change History

8.5.1 Overview

Change History feature tracks what changes have been applied to various SIMPLer platform pages. Each history entry gives the details on who, at what time, and what details have been changed for the particular page of the SIMPLer platform. The history entries are added automatically each time the database is updated by the SIMPLer platform user.

8.5.2 Accessing Change History Details

There will be a “history..” link or “H” button present where the feature is available (see Figure 8.5.5-1).

Other Active Equipment ?	Stock ?
Add	Add
Add	Add
Add	Add
Add	Add
Add	Add
Add	Add
Add	Add

Figure 8.5.2-1 History link examples

8.5.3 Browse Change History

History page lists the details of changes made to database of SIMPLer platform. When brought up from the link, the search parameters on the history page will be preset to list the particular change details i.e. changes made to the customer account details from the “Modify Customer Details” page. Each history entry has following details:

- **Id** – unique ID, automatically assigned when creating the entry
- **Date** – date the change was made
- **User** – SIMPLer platform user, that has made the change
- **Operation** – operation code
- **Description** – Description of the change made. Lists only values, that has changed
- **Key** – unique value used to crossreference the history entry to an entry in the table, that was changed i.e. Customer ID for “Modify Customer” operations

History

From Date ?

To date ?

Operation ?

User ?

Key ?

[Back](#) [List History](#) ?

History

Results 1 - 16 of 16 Number of results to display per page :

Id ?	Date ?	User ?	Operation ?	Description ?	Key ?
3646	22 Sep 2015 08:50:00	aleksandra	modify_customers	customer_status: changed from "waiting for install" to "unused" postdate: changed from "22/09/2015" to "" reasonLabel: changed from "Reason" to "Priority"	10916
3642	22 Sep 2015 08:20:00	aleksandra	modify_customers	customer_status: changed from "migrated" to "waiting for install" installer: changed from "-- nobody assigned --" to "1" postdate: changed from "22/09/2015" to "22/9/2015" reason: changed from "To CID: 34 on emma instance" to "3"	10916
3181	14 May 2015 10:08:00	emma	modify_customers	groups: changed from "" to "5"	10916
2153	15 Jan 2014 06:40:00	emma	modify_customers	customer_status: changed from "waiting for install" to "current" postdate: changed from "13/01/2014" to "" reasonLabel: changed from "Reason" to "Priority"	10916
2133	14 Jan 2014 06:32:00	emma	modify_customers	customer_tracking: changed from "Normal" to "VIP" reasonLabel: changed from "Reason" to "Priority"	10916

Figure 8.5.3-1 “Search Engine” page

Note: Activity of a single user can be verified using the “User” searches

8.6 Refer-a-Friend

8.6.1 Overview

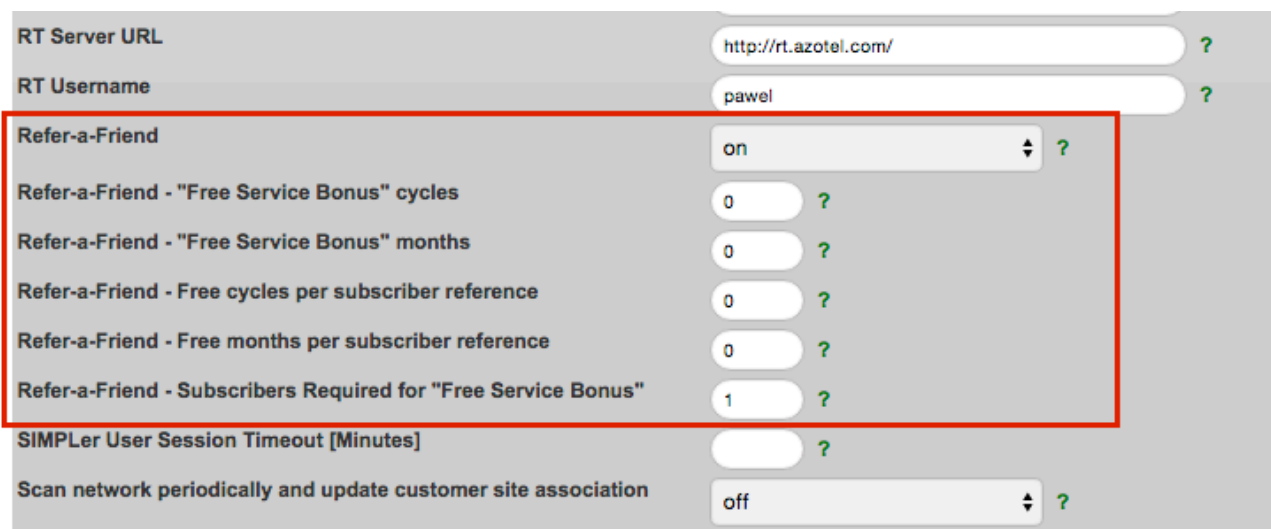
A feature has been added that allows operators to create a referral schema in the SIMPLer platform. The newly introduced system makes for easy tracking of the referrals associated with a customer account and automatically applies bonuses accordingly for these referrals. The system allows the name of the referral customer to be taken and associated to another active account on the system. Depending on the settings, the system can then automatically give the person who referred the new customer a credit. The credit will remain inactive until the referred customer becomes “current”. The system also keeps an active tally of the referrals associated with the account. If the customer’s active referral tally rises above a predefined threshold then additional free service bonuses can be applied. If the active tally drops below a predefined threshold before the end of the free service cycles, the service is then turned to paid again. Listed below are the main three feature characteristics:

- Track new referral sign ups and automatically add credits to referring parties
- Track active referral count to allot referral bonuses of predefined cycles
- Turn off free service when the active referral tally drops below defined active referrals

8.6.2 Feature Setup

The feature is setup from the "**SIMPLer Settings**" section of the "Modify Operator" page. There are four respective settings that control the "Refer-a-Friend" functionality.

- **Refer-a-Friend** - toggles the customer benefits system on/off. Leaving this option off turns off this functionality in the system.
- **Refer-a-Friend - "Free Service" cycles** - free cycles applied to the referrer when referral threshold met (i.e. Subscribers Required for "Free Service" threshold)
- **Refer-a-Friend - Free cycles per subscriber reference** – number of free cycles received for each individual reference
- **Refer-a-Friend - Subscribers Required for "Free Service"** – number of referrals required in order to receive the "Free Service" Cycles bonus



The screenshot shows the 'Modify Operator' page with the following settings:

RT Server URL	http://rt.azotel.com/	?
RT Username	pawel	?
Refer-a-Friend	on	?
Refer-a-Friend - "Free Service Bonus" cycles	0	?
Refer-a-Friend - "Free Service Bonus" months	0	?
Refer-a-Friend - Free cycles per subscriber reference	0	?
Refer-a-Friend - Free months per subscriber reference	0	?
Refer-a-Friend - Subscribers Required for "Free Service Bonus"	1	?
SIMPLer User Session Timeout [Minutes]		?
Scan network periodically and update customer site association	off	?

The 'Refer-a-Friend' section, including the toggle and the four bonus settings, is highlighted with a red box.

Figure 8.6.2-1 "Modify Operator" page

8.6.3 User Settings

There are two system-wide user rights related to referrals that can be defined by the operator. Access to the "Refer-a-Friend" summary page and access to the "Free Service" (subpart of Refer-a-Friend system) management page.

User Rights

Set Rights from Template:

attachments	access ☒	add ☒	modify not-owned ☒	billing information ☒
	network information ☒	maintenance ☒	sales tracking ☒	
billingissues	access ☒	send ☒		
credits	access ☒	add ☒	modify ☒	
customers	access ☒	add ☒	modify ☒	search ☒
	mass email ☒	spreadsheets ☒	creditcard ☒	bankdetails ☒
	view bank account ☒	privatenote ☒	modify subscriptions ☒	free service ☒
	view EUP password ☒	SAND - traffic ☒	SAND - invoice ☒	payment authorization codes ☒
	cc/echeck transaction log ☒	send sms ☐	refund ☒	
customfields	access ☒	modify ☒		
dashboard	access ☒	debtor aging ☒	cash flow projection ☒	revenue ☒
	arpu ☒	subscribers ☒	top20 ☒	tickets ☒
	spreadsheet ☒	form477 ☒	pipeline ☒	
financialtools	access ☒	cash flow ☒	lock database ☒	
gateway	WIB - access ☒	WIB - modify ☒	buckets - access ☒	buckets - modify ☒
	routes - access ☒	routes - modify ☒		
history	access ☒			
hotspots	access ☒	manage share plans ☐	manage hotspots ☒	manage products ☒
	add tokens ☒			
installers	access ☒	add ☒	modify ☒	
installertracking	access ☒	add ☒	modify ☒	list not-owned ☒
invoices	access ☒	delete ☒	mySIMPLer ☒	
lodgements	access ☒	delete ☒	modify processing date ☒	
maintenance	access ☒	send ☒	modify not-owned ☒	azotel internal ☐
	access attachments ☒	modify attachments ☒		
maintenancetype	access ☒			
map	coverage checker ☒			
network	access ☒	modCredentials ☒	site costs ☒	
notes	delete ☒			
prepayments	access ☒	add ☒	modify ☒	
products	access ☒	add ☒	modify ☒	delete ☒
quotes	access ☒	add ☒	modify ☒	delete ☒
radius	access ☒	add ☒	modify ☒	
referafriend	access ☒			
salesissues	access ☒	emails ☒	modify not-owned ☒	summary ☒
salestracking	access ☒	add ☒	modify ☒	see other members ☒
settings	payment gateways ☒	billing issue types ☒	cronjob - access ☐	customer groups ☒
	tax calculators ☒	trigger api ☐		
stats	access ☒			
tools	access ☒	autoprovision ☒	reboot wib ☒	update wib ☒
	update buckets ☒	update radius ☐	update services ☒	tcpdump ☒
	zip ☒			
users	access ☐	add ☒	modify other ☐	change operator ☐
	operator details ☒	translations ☐	gcal ☒	rights templates ☒
	gcontact ☒	disable other ☐		
voip	access ☐			

Note:
 Operator: full access to WISP + can add/delete users
 (3) User: same as Operator but cannot add/delete users

Figure 8.6.3-1 "Modify User" page

8.6.4 Refer-a-Friend summary page

There is a "Refer-a-Friend" link on the invoices page that leads to the "Refer-a-Friend" summary page from where the operator can verify the current service bonus statuses of all customers that have referred at least one other customer. The operator can also conveniently access the benefiting customer pages as there is a link to each account on the right side of each row.

Refer-a-Friend Settings		
Free Cycles per subscriber Reference ?		0
Number of referrals required for Free Service Bonus. ? (0 - turns off the feature) ?		1
Number of Free Service Bonus Cycles ? (0 - turns off the feature) ?		0

Refer-a-Friend Free Service Summary

Results 1 - 8 of 8							Number of results to display per page : 50
Customer ID ?	Customer Nickname ?	Referrals ?	Assigned Credit Cycles ?	Remaining Credit Cycles ?	Months ?	Remaining Free Service Months ?	
10387	Foster340	2	3	2	7	7	
10751	Phillips704	1	0	0	1	1	
10833	Curry786	1	0	0	1	0	
10904	101	1	0	0	1	0	
10953	EmFeb_2014	1	0	0	1	0	
10975	LANET000000038	1	2	2	1	1	
11005	AmeliaTupouTV6	2	3	2	3	2	
11007	MrGuo	2	10	5	13	8	

Figure 8.6.4-1 "Refer-a-Friend" page

8.6.5 Adding a New Referral

Upon adding a new customer account (or even at a later stage) a referral customer can be defined. The account specified in the "Referral Customer" field on the "Modify Customer" page will be eligible for bonuses coming from the "Refer-a-Friend" program. Note free services credits are only awarded for "current" referrals.

Customer Date Details

Initial Contact Date: Feb 18 2011

Installation Date: Feb 18 2011

Start Date: Feb 18 2011

Customer Referrals

Referral Customer: ▼

Referral Fee Status: ▼

Referral Fee Amount:

Customer Notes

Note:

Private Notes ?

Back Back to Customer Details Update Customer

Figure 8.6.5-1 "Modify Customer" page

8.6.6 Customer Benefits - Free Service

Customers that are referring other customers are the ultimate beneficiary of the "Refer-a-Friend" program. Based on the settings of the "refer-a-friend" feature they may receive some "Free Service" benefits for each of the following conditions:

- each new customer reference
- reaching a predefined bonus threshold

The operator can verify the current status of each "Free Service" bonus award to the customer account in the respective table on the "Customer Details" page. Each "Free Service Bonus" row is defined by the below details:

- **Date** - date the entry was added
- **Type** - specifies whether the row was added automatically by the "refer-a-friend" system or was added manually by the operator
- **Referral** - in the case of automatically added rows, this column will be pointing at the referenced customer account. Clicking at the link takes the user to the respective customer details page
- **Cycles** - Specifies number of "Free Service" invoicing cycles available to the benefiting customer.
- **Cycles Used** - Number of cycles currently used
- **Status** - Status of the "Free Service Bonus" - as the free service bonus can be suspended:
 - automatically - when the number of current customers required for the special bonus drops below the predefined threshold (i.e. one of these customer account is going post)
 - manually - operator can choose to suspend a "Free Service" bonus

Sub-Accounts: Subscription Details

Current Recurring Products

Sub-Account	Code	Description	Qty	Price	Import	Disc.	Premium	TAX / VAT Rate	Total	Valid Dates	Cycles Left	Traffic Allowance	Use Free Service Bonus	Invoiced Under
Test Customer for documentation (DocTest) unused	1-Spider Web	Spider Web High Speed Internet Package 2	1	75.00	Y	0.00 %	0.00 %	8.25 % ?	81.19			25 GB	Yes	Sub
Total Amount (USD) to be paid each frequency period (Including TAX / VAT)									81.19					

Master-Account: Subscription Details

Current Recurring Products

Master-Account	Code	Description	Qty	Price	Import	Disc.	Premium	TAX / VAT Rate	Total	Valid Dates	Cycles Left	Traffic Allowance	Use Free Service Bonus
No valid subscription Details available													

Free Service Bonus

(modify...)

(history...)

Date	Type	Referral	Cycles	Cycles Left	Months	Months Left	Status
No free service bonuses available							

Figure 8.6.6-1 "Free Service Bonus" table on "Customer Details" page

Each Free Service position can be fine tuned if required by the operator from the "Modify Free Service" page as presented below.

Customer Details

ID

10916

Name

Emma Test

Nickname

EmmaTest1

Invoicing ID

EmmaTest1

Back

Update Table

?

Free Service Table

ID ?	Type ?	Date ?	Cycles ?	Cycles Used ?	Months ?	Months Used ?	Referral ?	Suspended ?	
14	custom	Sep 22, 2015	4	2	5	3		No	Delete
15	custom	Sep 22, 2015	8	2	9	0		Yes	Delete

Add Blank Row

?

Figure 8.6.6-2 "Modify Free Service Bonus" page

Each unused "Free Service Bonus" cycle under a customer account will be used to credit products/subscriptions in one billing cycle, but only for subscriptions that have an appropriate option selected. In other words the subscription amount will be forced to zero by the "Free Service" bonus in the following cycle only if the "Use Free Service Bonus" option has been specified for it under the subscription details. This gives the required flexibility to the system to allow the

operator to still charge for certain services while applying the bonus to others. Subscriptions can be modified from the "Modify Subscriptions" page; also the details are listed in the "Subscriptions" section of the customer details page.

Note that only one "Free Service" cycle from the oldest "Free Service Bonus" entry is used per each billing cycle.

Customer Subscription table

ID	Product Code	Product Type	Product Description	Quantity	Price	Discount %	Premium %	TAX Settings	Total Cycles Amount	Every (N) Invoices	Subscription Type	Valid Dates	Free Service Cycles
1162	1-Spider Import Web	Import	Spider Web High Speed Internet Package	1	75.00	0.00	0.00	TAX Mode: Default, TAX Zone: abc, TAX Rounding: product default	8.25	81.19	Recurring	to: , from:	Yes
Total:												81.19	

Figure 8.6.6-3 Modify Subscription" page

Subscription Details (modify_) (history_) (consolidate subscriptions_)

Current Recurring Products

Code	Description	Qty	Price	Import	Disc.	Premium	TAX / VAT Rate	Total	Valid Dates	Cycles Left	Traffic Allowance	Use Free Service Bonus
1-Spider Web	Spider Web High Speed Internet Package 2 Invoiced from Master Account	1	75.00	Y	0.00 %	0.00 %	8.25 % ?	81.19			25 GB	Yes
Total Amount (USD)								81.19				
to be paid each frequency period (Including TAX / VAT)												

Figure 8.6.6-4 "Subscriptions" section of "Customer Details" page

When generating an invoice run all rows representing invoices where a "Free Service" bonus has been applied to at least one position will be marked with an appropriate note (see screenshot below).

Generate	Invoicing ID	Name	Last Invoice	Invoice Date	Payment Method	VAT Exemption	Amount	Posted Date	Send Method	VoIP Bill	Balance Forward
☐	Bill2	Billing Test2	19/09/08	19/10/08	cash	No	33.00	15/11/2011	email to customer	Disabled	245.40 DR
☐	SJS-6531	Invoice Test	06/07/10	06/10/11	standing order	No	165.00	15/11/2011	only to operator	Disabled	165.00 DR
☐	SJS-6564	tester	06/10/11	01/11/11	standing order	No	0.00	15/11/2011	only to operator	Disabled	239.52 DR

Note: Free Service Bonus applied to at least to one subscription.

Figure 8.6.6-5 "Generate Invoices" page

The operator has the option of adding an appropriate label to the invoice to inform the end customer about the bonus being applied if desired. The exact wording depends on the invoice template the operator is using. The default invoice template notification can be found on the below screenshot.

Note: Operators with older invoice templates will need to update their invoice template.

No:	191
Date:	Dec 05, 2010
Period:	Dec 05, 2010 - Jan 05, 2011
Account ID:	AZOTELTEST

Azotel Test	Test Tech LTD 123 Anystreet Mahon Miami FL-13SX Tel: +353 21 123 4567 Email: noreponse@azotel.co
--------------------	--

Previous Payment Details	
Date	Description
	No payments were made since the last invoice date
Balance Forward	
Previous Balance Owning	0.00
Subscription Details	
Qty	Product
1.00	Home User, 1 quarter in advance
1.00	Starter Pack - 1 Month in Advance

	\$
	-
	\$
	0.00
	\$
	0.00
	\$
	50.00

Net Amount	\$ 50.00
Tax Amount	\$ 5.00
Invoice Total	\$ 55.00
Previous Balance	\$ 0.00
Total Amount Due	\$ 55.00

Figure 8.6.6-6 Invoice Example

8.6.7 GPS Update Tool

A new feature has been added to SIMPLer to help add GPS coordinates to customer records if none have been previously specified.

Simply go to the "tools" tab in SIMPLer and choose "Update GPS Details" as the action.

System Tools

Select an action:

Update GPS Details

Submit

Figure 8.6.7-1 GPS Update Action

After clicking "Submit" the following message will be displayed.

GPS Update script has been executed. All customer accounts with missing GPS details will be processed. Please note that it may take several hours to process (depending on the size of your customer base).

[Back to tools >>](#)

Figure 8.6.7-2 Confirmation

Please note: This functionality uses the Google Maps API which will make a "best guess" for what the GPS coordinates should be. As you are aware this can sometimes be inaccurate depending on the location and address details provided. This tool is meant to get you started using the mapping but some verification should be carried out by going to the "map" tab.



Figure 8.6.7-3 Map Sample

8.6.8 Open Maintenance Tickets

A new feature has been added to the SIMPLer Google Earth implementation that allows operators to view their opened maintenance tickets on the Google Earth Plug-in. This feature assists operators in narrowing down the source of an issue based on the maintenance ticket location. The maintenance location is based on the customer GPS coordinates.

Operators can enable / disable Maintenance Tickets using tickbox besides "maintenance" sections. Tickets are aggregated based on the ticket type. There is also the information of the number of the currently opened maintenance tickets displayed (Fig. 8.6.8-1).

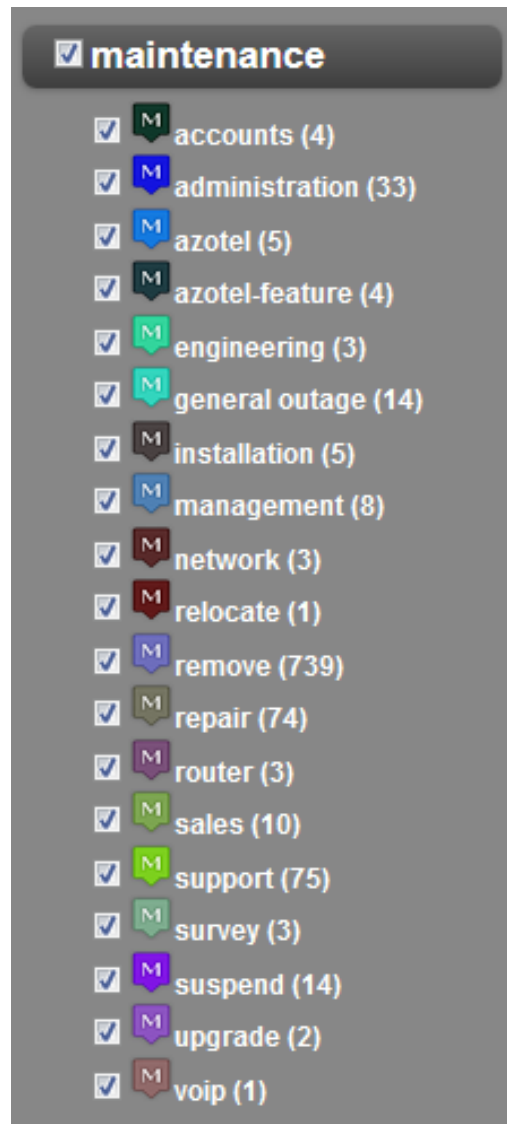


Fig. 8.6.8-1. "Maintenance" section

Each maintenance type is displayed on the map using a different marker colour (fig. 8.6.8-2).



Fig. 8.6.8-2. Maintenance tickets on map

Clicking on the marker displays a window with the ticket information (fig. 8.6.8-3)

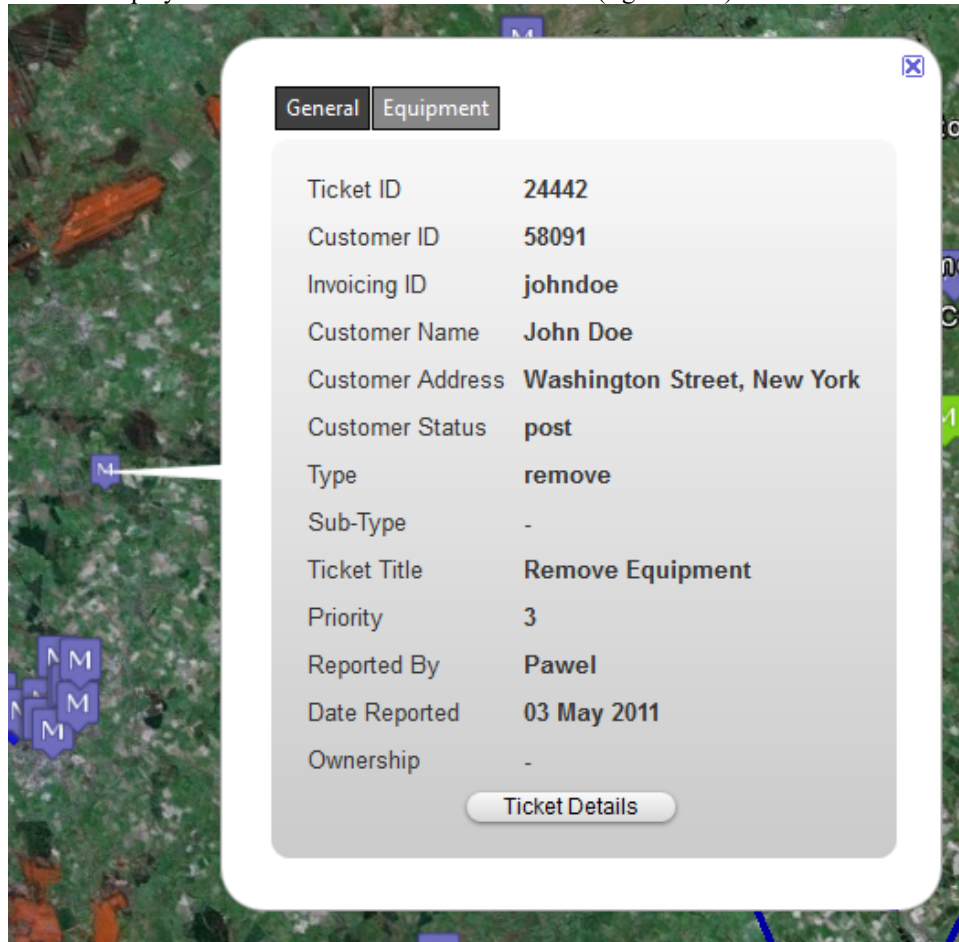


Fig. 4.1-3. Ticket information

8.6.9 Manage Maintenance

A new "Manage Maintenance" web interface has been added to the SIMPLer system that will allow Operators to easily search for a particular group of tickets. The "Manage Maintenance" section can be found under new "Maintenance" main tab. See below figures (fig 8.6.9-1 and fig 8.6.9-2) for reference.

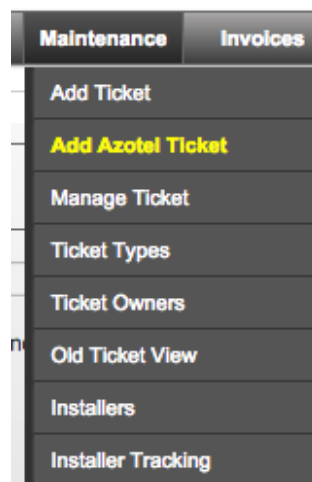


Fig. 8.6.9-1 Maintenance menu

General Details

Search: ?

☒ Standard (Name, Nickname, Invoicing ID)
☐ Nickname
☐ Customer ID
☐ Issue Number
☐ Maintenance Ticket Title
☐ Site Name
☐ Equipment Nickname

Search: ?

Sort Details

Last Updated Time
 DESC

Ticket Details

Issue Type:
 Subtype:
 Status:
 Ownership:
 Priority:

Customer Details

Customer Status
 Type
 Gateway
 Assigned Site
 Tracking

Saved Searches ?

Save as: Priority 1

Reset Search ? View Maintenance List / Search

Email Maintenance Spreadsheet

User Details

Created By
 Created From:
 Created To:
 Updated By
 Updated From:
 Updated To:
 Closed By
 Closed From:
 Closed To:
 Assigned Installer

Fig 8.6.9-2 Manage Maintenance page

Features:

- Allows operators to do specific searches to the following groups: tickets assigned to customers, tickets assigned to site, tickets assigned to equipment, all tickets.
- Allows users to search for multiple ticket types in the one search.
- Allows operators to track ticket update history.
- Allows operators to do a detailed and dated search.
- Allows operators to have a spreadsheet containing their detailed search sent to their email address.

8.6.10 Customer Tracking Colour

A new feature has been added that allows SIMPLer users to define customer tracking colour which is displayed on the customer details page. To set customer tracking colour, modify customer tracking definitions under "Settings->Tracking Definitions" (Fig.1). The new colour settings will be applied once the changes are saved (Fig. 2).

[Back] [Update Table] ?

Customer Tracking Definitions ?

Code ?	Label ?	Colour ?	
Debtors Alert	Debtors Alert	#ff0000	?
Disconnect	Disconnect	black	?
Normal	Normal	black	?
Suspended	Suspended	black	?
VIP		Purple	Delete
new	label	blue	Delete
new2	test 22	green	Delete

[Add Blank Row] ?

Fig.1 Customer Tracking Definitions (Settings -> Tracking Definitions)

Customer Account (modify...) (history...)	Contact Details (modify...) (history...) (maillog...)	General (modify...) (history...)
Customer ID 10916	Email VCard	Type customer home
Invoicing ID EmmaTest1	Email oharej@azotel.com	Start Date May 21, 2013
Nickname EmmaTest1	Accounts Email emma@azotel.com	Initial Contact Date May 21, 2013
Name Emma Test	Supports Email	Installation Date May 21, 2013
Status unused Changed: Sep 22, 2015 SAND: Clear	Telephone ?	Importance 3
	Fax	Customer Tracking VIP
	Website	Marketing Code
	Contacts ?	Marketing Emails No
		Reference
		Reference Fee 10.00
		Reference Fee Status Due
		Sales Team Member
		Invoice Template Other
Financial Summary (statement...)		
Prepayments (Amount Remaining) USD 2.88 CR		
Credits (Amount Remaining) USD 0.00 CR		
Customer Balance USD 0.00 DR		
Address (modify...) (history...)		Show Map

Fig. 2. Customer Tracking Colour

Annex A: References

A.1 Document References

A.2 Link References

- [L1] <http://www.azotel.com/>
Azotel homepage.
- [L2] <https://wib.azotel.com/>
Access to SIMPLer system.

Annex B: Definitions and abbreviations

B.1 Definitions

B.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

EFT	Electronic Funds Transfer (Direct Debit)
WIB-C	WISP in a Box – Client
SIMPLer	Azotel's integrated Operators platform

Annex C: Connection Tracking

C.1 Overview

Each time information flows through the wib-c, the wib-c must track the source and destination of the information. We call the logical relationship between the source and destination a “connection”. As long as information is flowing in either direction the wib-c will keep the “connection” active. Once information has not passed in either direction for a period of time (which varies from a few minutes to a few hours depending on the protocol involved), or either side closes the connection, the wib-c clears the connection and frees up the resources.

In general a “well behaved” session goes something like this: - the connection is opened up, some data is transferred in either or both directions and the connection is closed. For example, when you send an email, it opens up a connection, sends your email and then closes the connection. “Hung” connection generally happen because either something crashed or something did not close down the connection when it was finished with it – this latter case is generally due to viruses or peer-to-peer file sharing programs which often open many connections but do not always close them down correctly. These “hung” connections will eventually be cleared by the wib-c after it has detected that traffic has not passed in either direction for a period of time.

C.2 TCP Connection Limit

The default idle/“hung” connection timeout for most protocols is quite short – 2-3 minutes typically. However due to the nature of the TCP protocol (which is used for “reliable” data transfer on the internet) the connection timeout is quite long – 6 hours in the current wib-c firmware. As a result of this a virus or mis-behaving peer-to-peer application could cause a large number of TCP connections to be present on the wib-c and these connections will not be cleared for a long time. As this uses wib-c resources, it could potentially impact other wib-c users.

To counteract this the wib-c can be configured to limit the number of TCP connections a customer has active – the limit can be set on a per-customer basis on the Network Details page (if the limit is set to 0 – the default value – it means than an unlimited number of connections are allowed for that customer). When set to a non-zero value, the wib-c will limit the customer to that number of active TCP connections – any further TCP connection attempts will be blocked by the wib-c.

The operator should use this functionality with caution as it can give rise to very “erratic” behaviour for the customer – for example if they are close to the limit and start to view a web page (which may require several connections to retrieve all of the information on the page), parts of the page may display while other parts may be blocked by the wib-c. Likewise the customer may find that they can sometimes send an email while at other times the attempt is blocked.

It is recommended that the TCP Connection Limit feature only be used as a last resort when all other means of getting a customer to moderate their behaviour has failed.

The number of TCP connections which a customer has active may be viewed using the “Analyse Gateway Traffic” tool on the “stats” page in SIMPLer.

Annex D: Customer Import Spreadsheet

D.1 Overview

The following explains, in detail, the fields required in the spreadsheet requested from new operators migrating customer data from existing systems. The fields requested in each tab of the spreadsheet are explained in a table.

D.2 Fields Requested for Customer Information

Customer Information Tab			
Ref	Field	Mandatory	Details
1	Invoicing ID	YES	Must be unique Allowed Characters: Alphanumeric with underscore only. Example: Jsmith001
2	Name	YES	Full name to appear on invoices, etc. It is recommended to use first name, last name format or last name, first name, but to be consistent with your choice. Example: John Smith OR Smith, John.
3	Nickname	YES	Must be unique Allowed Characters: Alphanumeric with underscore only. Can be same as invoicing ID but each must be unique. Example: Jsmith001.
4	Street 1	NO	Example: Apartment 1B
5	Street 2	NO	Example: Main Street
6	City	NO	Example: Dallas
7	State	NO	Must be full state common name, e.g. New York instead of NY Available to US Operators only Example: Texas. List of states: http://en.wikipedia.org/wiki/List_of_U.S._states
8	ZIP	NO	Example: TX00001
9	Country	NO	Example: United States.
10	Install Street 1	NO	Same format as billing address, some clients may have a different install address to their billing address.
11	Install Street 2	NO	Same format as billing address, some clients may have a different install address to their billing address.
12	Install City	NO	Same format as billing address, some clients may have a different install address to their billing address.
13	Install State	NO	Must be full state common name, e.g. New York instead of NY Available to US Operators only Example: Texas. List of states: http://en.wikipedia.org/wiki/List_of_U.S._states Same format as billing address, some clients may have a different install address to their billing address. Must enter full state name, e.g New York instead of NY.
14	Install Zip	NO	Same format as billing address, some clients may have a different install address to their billing address.
15	Phone	NO	Allowed Characters 1-9, -, +, () Example: 001-12-345-678
16	Fax	NO	Allowed Characters 1-9, -, +, () Example: 001-12-345-678
17	Email	NO	Primary email for your client. This will be used for all contact, e.g invoices, mass email notification, disconnection notices, marketing emails, etc unless other emails are specified.
18	Accounts Email	NO	If the email address to receive invoices differs from the main email contact you must enter this here.
19	Support Email	NO	Informational field to track your client's support email.
20	Website	NO	Example: www.azotel.com
21	Contact	NO	Primary contact e.g Jane Smith.
22	Customer Status	YES	Only the following statuses are available: current, post, waiting for install, installed, contract, potential.
23	Type	YES	Only the following types are available: customer home, customer business, government, partner, and reseller.
24	Contact Date	NO	The date you first made contact with your customer or entered the customer into SIMPLer or your previous system. Informational field. Date format is YYYY-MM-DD
25	Installation Date	YES	The date your customer was installed. Format: YYYY-MM-DD
26	Start Date	YES	NB: The date that your customer should start invoicing in SIMPLer. Format: YYYY-MM-DD Example: 2013/05/01
27	Vat exemption	NO	Accepted fields: Yes or No.
28	Credit Days	NO	If you wish to give credit to a customer (ie not to invoice them on their start date but to allow the system to ignore invoices until a certain date. Example: start date is May 01 but invoices are being delayed until May 05. Enter 4 into this field)
29	Payment Method	YES	Must be cash, cheque, credit card, direct debit (which is ACH), standing order, or online transfer.
30	Frequency	YES	How often should the customer be invoiced? 1 = monthly, 12 = annually, etc

31	Send Method	YES	How should their invoice be sent? For "send paper copy" enter pdf. For "email to customer" enter mail. Other options: none, both
32	Gateway	NO	Depends on the gateways as defined in your instance. (Under network settings) It should be WIB ID customer is assigned to.
33	Bucket	NO	Depends on the buckets defined for the gateway the customer is assigned to. It should be bucket ID customer is assigned to.
34	Note	NO	Visible to customers on Work Orders.
35	Private Note	NO	Internal access only. May contain terms of sale you wish for only your staff to see.
36	Gen. equip graphs	NO	Values accepted are either on or off.
37	PO Number	NO	Purchase Order Number – optional.
38	Importance	NO	You may have a system of ranking customers based on priority. In SIMPLer you may use numbers 1 to 5 for this.
39	Marketing Code	NO	A marketing code you may use for your customers – optional.
40	Marketing Emails	NO	Values accepted are on or off.
41	IP type	NO	Public or Private.
42	EUP username	NO	If not specified SIMPLer can generate these randomly at a later date. This relates to your customer's login details for the End User Portal.
43	EUP password	NO	If not specified SIMPLer can generate these randomly at a later date. This relates to your customer's login details for the End User Portal.
44	Installation Area	NO	
45	Community Code	NO	
46	GPS x	NO	SIMPLer has integrated with google maps to show exact location on the map once given GPS coordinates.
47	GPS y	NO	SIMPLer has integrated with google maps to show exact location on the map once given GPS coordinates.
48	Tax Mode	NO	Accepted values are: Default, Fixed, or Flexible. Set Flexible if using a tax zone you have specified in your instance.
49	Tax Zone	NO	Must be defined by user in SIMPLer.
50	Tax Rate	NO	Can be set once tax zones are defined.
51	Site Name	NO	Must match user-defined sites. (Network tab in SIMPLer. Site tab on spreadsheet)

D.3 Customer IP Details

IP Details Tab			
Ref	Field	Mandatory	Details
1	Invoicing ID	YES	Must match invoicing IDs defined in the previous tab. This is the invoicing ID your IP will be assigned to.
2	IP Address	YES	Customer's IP address Format x.x.x.x
3	MAC Address	NO	Mac address associated with this customer Format: XX:XX:XX:XX:XX:XX Required only if DHCP with fixed IP addresses will be used on WIB.
4	Label	NO	
5	Mac restrict	NO	Accepted values are on or off. Determines if the WIB should ensure that a specified MAC only uses the IP. Puts heavy burden on WIB so "off" is recommended unless suspecting duplicate IPs
6	Type	YES	Accepted values: Public or Private
7	Radius_username	NO	Radius username assigned to customer. (if using RADIUS based network)

D.4 Products

Note: Once these products are imported into SIMPLer they will be given a product ID. This product ID will never change and any financial reports containing products will be tracked from this ID.

Products Tab			
Ref	Field	Mandatory	Details
1	Product Code	YES	Enter a meaningful code for your product, e.g ZONE1-2M. Unique identifier for products. Alphanumeric characters allowed.
2	Price	YES	Example: 25.99.
3	Description	YES	Use a meaningful description as this is used on the invoice to customers. Example: High speed monthly broadband package.
4	Prod. Type	NO	Possible types are standard (used in the majority of cases), import (used to import variable prices set by outside sources e.g VOIP), Dynamic (will base it's price on other products on an invoice, used for a percentage maintenance fee for example), DD/EFT Fail charges (used to add automatically to a customer as an invoice when their Direct Debit or EFT is marked as failed in SIMPLer)
5	Sub. Cycles	NO	Number of times charged to customer. For example installation products are generally 1 cycle. Generally leave this blank if this product is on-going.
6	Sub valid from	NO	Date value YYYY-MM-DD used to archive products or to replace them with new ones.
7	Sub Valid to	NO	Date value YYYY-MM-DD used to archive products or to replace them with new ones.
8	Tax Mode	NO	Possible values: Default, Fixed, Flexible. Set as flexible if tax zones are defined in your instance. (Settings → tax zones)
9	Tax Zone	NO	Must match user defined tax zones in your instance. (Settings → tax zones)
10	Tax Rate	NO	Must match user defined tax rates under tax zones in your instance. (Settings → tax rates)
11	Traffic Allowance	NO	Value in GB to two decimal places.
12	Turn off prorating	NO	Off or on. Installation products should be set to on.

D.5 Subscriptions

Subscriptions Tab			
Ref	Field	Mandatory	Details
1	Invoicing ID	YES	Must be a valid invoice ID as specified in the customers tab.
2	Product Code	YES	Must match codes from import. (Products tab)
3	Description	NO	If left blank will take code specified in the products tab.
4	Price	NO	If left blank will take default as specified in products tab.
5	Quantity	YES	Integer Values. Example: 1.
6	Discount	NO	Percentage: Example: 10.00 for 10%.
7	Premium	NO	Percentage: Example: 10.00 for 10%.
8	Round	NO	Arithmetic, up or down.
9	Type	NO	Recurring, overage or reconnection.
10	Valid to	NO	YYYY/MM/DD – blank if default ie no expiry.
11	Valid from	NO	YYYY/MM/DD – blank if default ie no fixed future start date.
12	Cycles	NO	Integer value for number of times to charge the customer. Example: 1. Default: leave blank.
13	Tax_mode	NO	Values allowed: Default, Fixed, or Flexible. Set Flexible if using a tax zone.
14	Tax_zone	NO	Must match user defined tax zones in your instance. (Settings → Tax Zones)
15	Tax_rate	NO	If using a fixed tax mode you can set this here. Example 8.25 for 8.25%
16	Formula	NO	Only used for import type products.
17	Free_service	NO	Yes or no. Used with the refer-a-friend system.

D.6 Equipment

Equipment Tab			
Ref	Field	Mandatory	Details
1	Equipment Nickname	YES	Enter a valid nickname for your equipment. Only alphanumeric. Example: SM1.
2	IP Address	YES	IP address assigned to equipment. Format x.x.x.x
3	Description	NO	Example: Canopy SM.
4	Serial Number	NO	
5	MAC Address	NO	Format: XX:XX:XX:XX:XX:XX
6	Equipstatus	YES	Values accepted are use, stock or fault.
7	Parent	NO	Nickname of parent equipment.
8	Type	YES	Types accepted are specific in SIMPLer. The list are as follows: AirOS BH (SNMP v1 enabled – Interface 2), AirOS BH(SNMP v1 enabled – Interface 3), AirOS BH (SNMP v1 enabled), Airspan Asmax BS, Airspan Marconi WipLL BSR, Alvarion BreezeACCESS AU, Alvarion BreezeACCESS SU, Alvarion Wimax AP, Alvarion Wimax MS, Canopy AP, Canopy BH, Canopy CMM, Canopy OFDM BH V2, Canopy PMP320 AP, Canopy PMP320 SM, Canopy PMP430 AP, Canopy PMP430 SM, Canopy PMP450 AP, Canopy PMP450 SM, Canopy PTP800 BH, Canopy SM, Ceragon IP-10, Generic AP (SNMP v1 enabled), Generic BH (SNMP v1 enabled), Generic SM (SNMP v1 enabled), Greenpacket OX350 CPE, MicroTik AP, MicroTik Router, MicroTik SM, Nanostation SM, Nanostation SM v5.3.3, Other, Redline, SIAE, Switch Port (SNMPv2), Tranzeo, Ubiquity Rocket M-Series, VoIP ATA – CISCO SPA112, VoIP ATA – CISCO SPA2012, VoIP ATA – Generic, WiMax Subscriber Unit, Wipple Subscriber Unit.
9	Snmp Community	NO	Required for graphing.
10	Assigned Site	NO	Name of site where equipment is stored as stock.

D.7 CPE

CPE Tab			
Ref	Field	Mandatory	Details
1	Equip_nickname	YES	Must match equipment nickname as specified on the equipment tab.
2	Invoicing ID	YES	Customer's invoicing ID as specified on customer tab.
3	Gpsx	NO	Specify in decimal degrees.
4	Gpsy	NO	Specify in decimal degrees.
5	Distance	NO	
6	Colour/ssid	NO	
7	Frequency	NO	
8	Installed by	NO	
9	Dish installed	NO	Values accepted are yes or no.
10	Grounding Completed	NO	Values accepted are yes or no.
11	Additional info	NO	

D.8 Credit Card

Credit Card Tab			
Ref	Field	Mandatory	Details
1	Invoicing ID	YES	Customer invoicing ID as specified in the customer tab.
2	Autopay	YES	Accepted values: on or off.
3	Preferred	YES	Accepted values: yes or no. This is used when more than one card is on the account.
4	Holder Name	YES	Name of card holder as on card. Example: J Smith.
5	First Name	NO	First Name of Card Holder. Example: John.
6	Last Name	NO	Last name of card holder. Example: Smith.
7	Card Num	YES	Credit Card number. Example: 123456789.
8	Type	YES	Accepted types are Visa, MasterCard, American Express, Discover or other.
9	Exp. Month	YES	Numeric month with leading zero. Example: 01 = January.
10	Exp. Year	YES	Example: 2013.
11	Street 1	NO	Example: 1. Washington Close.
12	Street 2	NO	Example: Main Street.
13	City	NO	Example: Dallas.
14	County	NO	Example: Dallas
15	State	NO	Example: Texas.
16	Country	NO	Example: United States.

D.9 Site

Site Tab			
Ref	Field	Mandatory	Details
1	Site Name	YES	Example: AZO-HQ
2	WIB number	YES	WIB number as defined in your instance. (Network settings → gateways.
3	Contact Name	NO	Example: John Smith.
4	Access Info	NO	Some notes for access to the site.
5	Gpsx	NO	Decimal degrees
6	Gpsy	NO	Decimal degrees
7	Phone	NO	Example: 0011234567
8	Email	NO	Example: Jsmith@email.com
9	Monthly Cost	NO	
10	Site Status	YES	Accepted values are: Production, potential, cancelled, decommissioned.
11	Location	NO	
12	Country	NO	
13	Access Hours	NO	
14	Auto Site visit	NO	Accepted values: on or off.
15	Next Visit Date	NO	Date value: YYYY/MM/DD
16	Visit Interval	NO	Accepted values: Quarterly, Semi-annually, annually.
17	Height	NO	
18	Frequency	NO	In Mhz (e.g 5400 for 5.4Ghz)
19	Min_stock_level	NO	Integer value
20	Sitetype	YES	Accepted values: network, warehouse or installer.

D.10 Base Station

Base Station Tab			
Ref	Field	Mandatory	Details
1	Equip ID	YES	Must match equipment ID as defined in the equipment tab.
2	Site ID	YES	Must match site ID as defined in the site tab.
3	Sector	NO	
4	Direction	NO	
5	Colour/ssid	NO	
6	Frequency	NO	
7	Installed by	NO	
8	Description	NO	
9	WIB Number	YES	WIB number from instance.
10	Monitor	YES	Values accepted are: Monitor Email, Monitor Email + SMS, Monitot No Alert or No Monitor.

Annex E: Change history

Change history				
Date	Author	Subject/Comment	Old	New
05/05/06	gawl	Original	N/a	001
20/07/06	oharej	Reviewed	002	003
11/09/06	bartosz	Reviewed sections 5-7.	003	004
11/10/06	bartosz	"Delete user" section updated	004	005
19/12/06	Oharej	Minor formatting updates	005	006
26/02/07	bartosz	Spelling and few notes	006	007
25/10/07	sjs	Added details of priority buckets, connection limit and MAC address restrictions	007	008
27/11/07	sjs	Added details or Allowed P2P rate and Analyse Gateway P2P Traffic	008	009
29/11/07	sjs	Added background on P2P handling and updates to Gateway config pages	009	010
15/01/08	Sjs	Added hotspot additions from 08002_HIB-overview	010	011
28/01/08	gawl	Added captive portal and online payment system overview to hotspot section	011	012
28/01/08	sjs	Spelling revision	012	013
05/06/08	sjs	Added Installer Tracking section	013	014
03/07/08	sjs	Added SANDs feature	014	015
07/07/08	sjs	Updated SANDs feature description	015	016
14/08/08	sjs	Added tcpdump to tools section	016	017
15/10/08	sjs	Added Private notes section	017	018
13/11/08	sjs	Added general guidelines for traffic shaping buckets	018	019
31/01/09	sjs	Updates for various recently added features	019	020
8/Jul/09	gawl	Delete customer account	020	021
30/Jul/09	julius	Replaced WISPer -> SIMPLer	022	023
20/Aug/09	julius	Updated emails descriptions	023	024
08/Sep/10	tomas	Updated Entire document including Screenshots and feature descriptions	024	100
21/Sep/10	Sjs	Updated for grouped WIBs	100	101
6/Oct/2010	gawl	Customer Groups	101	102
4/Nov/2010	gawl	Change History	102	103
11/Jan/2011	gawl	Refer-a-Friend	103	104
13/Jan/2011	mateusz	Updated phone nums	104	104
07/Feb/2011	Ttm	Various formatting changes	104	105
08/Apr/2011	arisk	Added feature description	105	106
24/Nov/2011	justyna	Updated screenshots	106	107
02/0May/2013	emma/paul	Annex D: Fields Required for Customer Information	107	108
13/Jun/13	paul	Changed doc's title, copyright and correct year, doc num on all pages	108	200
6/Aug/13	Paul	Feature Updates	200	201
20/Aug/14	stephen	NETH Updates	201	202
17/Aug/15	emma	Updated Maintenance Screenshots	202	203
22/Sept/15	Aleksandra	Updated the old screenshots and the formatting	203	204
27 May 2016	Emma	Added example Ticketing Work Flow – section 5.8.6	204	205