

Mikrotik Implementation in Rural Conditions



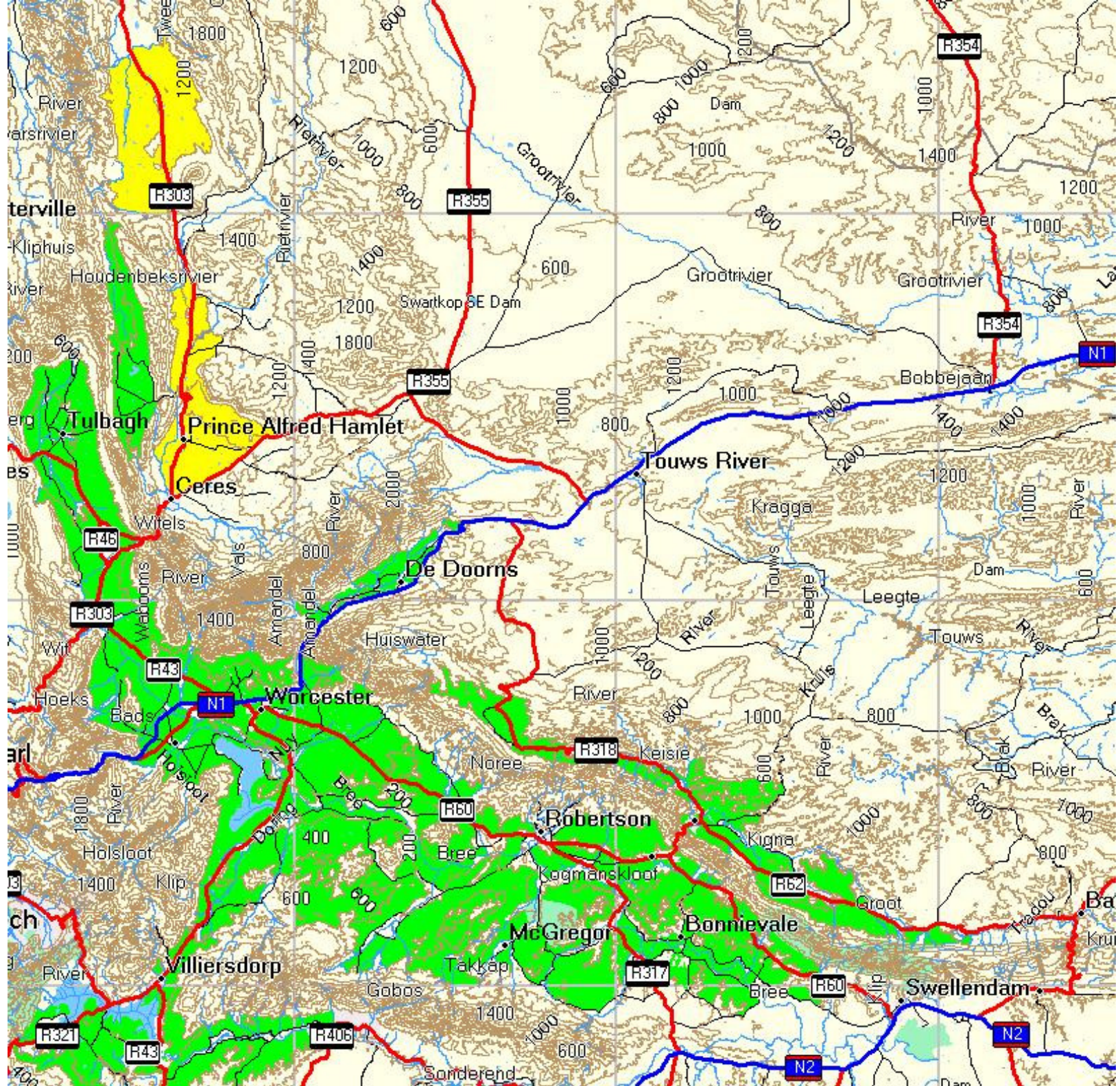
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Overalga



Rural challenges

- Low Client density
- Long distances for maintenance and support
- Difficult terrain – 90 % 4x4 and some climbing
- Strong winds, Snow, Ice, Fires and baboons
- Mostly Solar power with battery banks used.

Terrain



Weather



Nature, Fire, Baboons



Power

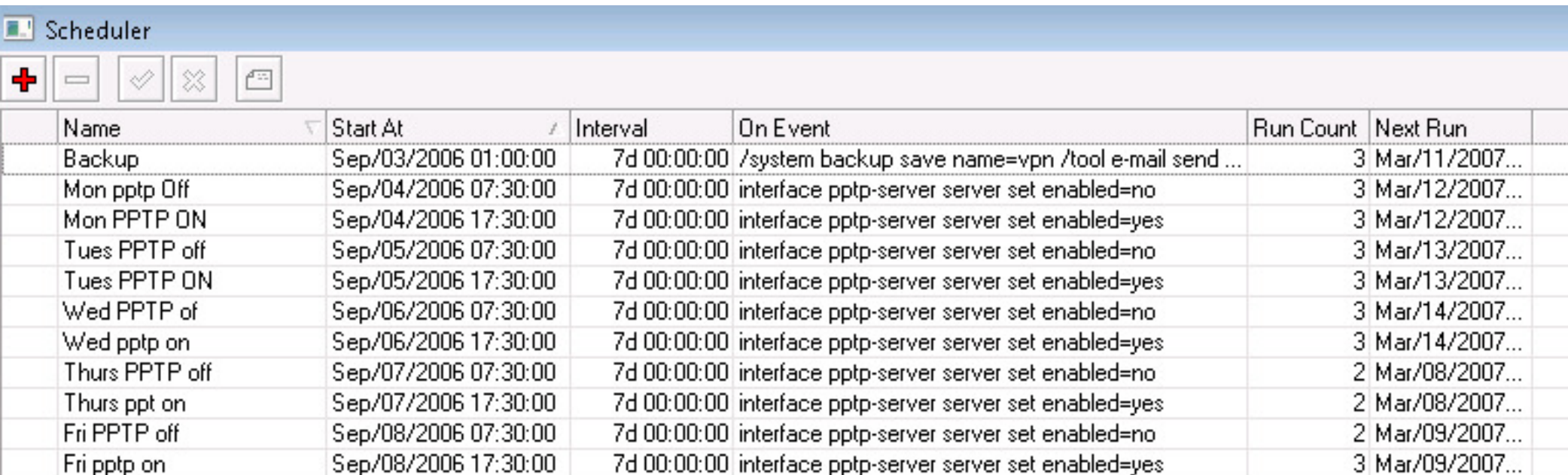


Mikrotik Router OS

Control!!

- Force mail to SMTP server
- Transparent Proxy
- Backups e-mailed automatically
- Destination routing

Rules to allow VPN access after hours for p2p



Name	Start At	Interval	On Event	Run Count	Next Run
Backup	Sep/03/2006 01:00:00	7d 00:00:00	/system backup save name=vpn /tool e-mail send ...	3	Mar/11/2007...
Mon pptp Off	Sep/04/2006 07:30:00	7d 00:00:00	interface pptp-server server set enabled=no	3	Mar/12/2007...
Mon PPTP ON	Sep/04/2006 17:30:00	7d 00:00:00	interface pptp-server server set enabled=yes	3	Mar/12/2007...
Tues PPTP off	Sep/05/2006 07:30:00	7d 00:00:00	interface pptp-server server set enabled=no	3	Mar/13/2007...
Tues PPTP ON	Sep/05/2006 17:30:00	7d 00:00:00	interface pptp-server server set enabled=yes	3	Mar/13/2007...
Wed PPTP of	Sep/06/2006 07:30:00	7d 00:00:00	interface pptp-server server set enabled=no	3	Mar/14/2007...
Wed pptp on	Sep/06/2006 17:30:00	7d 00:00:00	interface pptp-server server set enabled=yes	3	Mar/14/2007...
Thurs PPTP off	Sep/07/2006 07:30:00	7d 00:00:00	interface pptp-server server set enabled=no	2	Mar/08/2007...
Thurs ppt on	Sep/07/2006 17:30:00	7d 00:00:00	interface pptp-server server set enabled=yes	2	Mar/08/2007...
Fri PPTP off	Sep/08/2006 07:30:00	7d 00:00:00	interface pptp-server server set enabled=no	2	Mar/09/2007...
Fri pptp on	Sep/08/2006 17:30:00	7d 00:00:00	interface pptp-server server set enabled=yes	3	Mar/09/2007...

Routerboard 532 and 112

- Rugged, well designed
- Works in all our conditions

Possible enhancements

- Monitoring battery power level
- No Wireless card interfaces at the back and at least 2 in front, more if possible
- Easy and quick clip-on design

Hotspot Vouchers

Front

Hotspot Voucher

R55 - 60 minutes

Logon:	125ypww
Password:	x8eng

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Back

How to use this voucher

- Enable your wireless adapter and ensure it is set to obtain an IP address automatically.
- View the available Wireless Hotspots and connect to the one with the strongest signal.
- After it is connected, open your web browser and enter your logon details.
- You are now ready to surf the internet and send and receive e-mail.
- Go to <http://hotspot.breede.co.za> to view your remaining minutes and remember to log off when you are done.

Future needs we have for Usermanager

- Two or more Usermanager working together as backups, master – slave setup.
- More Space for personal information for clients
- Easier backup and restore. Integration in normal backups