

Overview

LoggerNet Admin is used as the telemetry platform to collect data from the Pakbus OS dataloggers. The system can collect through a variety of comms options from digital radio to UDP. The backbone of the system is run from a virtual server and consists of the LoggerNet admin client. The server RDP Name is *LoggerNet* with the Flcont credentials.

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Main	X Setup	
Program	Connect	
Data	Status Monitor	
Tools	Task Master	
Utilities		
Favorites	CAMPBELL BC	IENTIFIC
	Main Program Data Tools Utilities Favorites	MainSetupProgramImage: Image: Imag

The Client has all the stand LoggerNet features;

Setup:	Is used for defining the LoggerNet connections
Connect:	Is used to manually interrogate a logger and to check logger/sensor function
Status Monitor:	Shows the current schedule status of the loggers and can be used to collect data
Task Master:	Shows the scheduled task, can be used for running backups, moving data and calling secondary stations

Although the LoggerNet Client is run on the server the stored data is held on ARES <u>\\pnt-cd1\Telemetry\Loggernet Telemetry</u>

This stores the returned .dat files and holds the .dsn files used to decode the data set; a batch file is used to push all the data into the <u>original</u> archive and the LoggerNet.hts directory.

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LoggerNet Telemetry Basics

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The LoggerNet setup tree is built around defining communication groups to the logger. Predefined paths are available or new one can be created, TCP/IP connections can be added as direct com roots but other devices can be mapped to available com ports.

Build the tree as required, adding Pakbus ports if needed and then attaching hardware. Individual hardware on a Pakbus port must have unique addresses and the same baud rate, use separate if needed to match the deployed loggers.

To enable dual comms with sites an application is used between LoggerNet and the comms ports, LNcomms uses the SQL database to define the dual coms paths available (See section on Setting up coms ports for more detail). The link to LNcomms requires the sites to be set up as if on a phone modem.

Use LN <descriptor> to define com ports, i.e. LN UDP; add IPPort -XXX for TCP connections i.e. IPPort - KAH

COM 100 (UDPTerm) Com Y Tauakira Com Y Tauakira LN UDP Statustica	Standard Communications Enabled ComPort Connection	COM111	
E Call AU TAM	Advanced Call-Back Enabled		

Set the base modem as LN <Descripton> Group i.e. LN UDP Group

COM 100 (UDPTerm) Com Y Tauakira LN UDP	Communications Enable	ed	
E VIDP Group	Maximum Baud Rate	115200	-
PakBusPort_8		Edit Modem Da	tabase
	LoggerNet Modem	-	•

For the remote modem use Call XXX and include the full site name as the Phone Number Include the actual coms paths available as notes, IP address radio, phone number etc to aid in BCP rebuild Leave the Pakbus port settings unchanged but should be on 9600 baud

Sites should be added to the correct calling group in LoggerNet, the available groups are defined by the primary call path such as UDP, Phone or Radio. Select the desired Base modem and ADD a new Phone Remote



A PakBus Port and datalogger can then be add to this remote

Name the phone remote Call XXX with XXX being the site code

In the Phone Number field add the full site name, This will match an entry in the SQl database, in the notes field include a comment for all available comms options for the site

Coup Coup Coup Coup	🔽 Communicati	ions Enabled	
St LN Turoa Group	Delay (ms)	Phone Number	
E- KU LN Tapuae	0	Makohine at Zohs Road	
LN Tapuae Group Call 20H PakBusPort_11 Makohine at Zohs Road Call ERE PakBusPort_35 Rangitikei at Erewhon Station		<add number="" phone=""></add>	



SQL Database setup with TelemClient

To enable the dual comms function LNcomms application is used as a conduit between LoggerNet and the comms ports, it links to the SQL database that holds the information for the call paths available for the site. The TelemClient is used to edit the database.

Add a new site with the full hilltop site name and set up the primary and secondary Connections.

1akin	no at Reids	Line	•	Add New	1		Close	
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L	ogger Type	e LoggerNet			On Air		Save As	
onne	ection Lo	gger Specific					Delete	
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	Moder	m LoggerNet NRR 💌 F	Pager Activate				Rename	•
Com	nms Addres	s					Help	
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The beacon Interval can cause some issue with BCP operation and should be set to 00 h 00m 00s, this is only used for pakbus networks with store and forward.

Port 67 - Karioi GOM 100 (UDPTerm) Om Y Tauakira LN UDP	Communications Enable	ed	
E 🔆 LN UDP Group	Maximum Time On-Line	00 h 10 m 00 s	
E Supervision Call AQ TAM	Maximum Baud Rate	9600	•
Air Quality at Taumarunui	Beacon Interval	00 h <mark>00</mark> m 00 s	-
	PakBus Verify Interval	00 h 00 m 00 s	
🔤 Ohau at Makahika	Advanced		
	Extra Response Time	00 s	÷
€ -=== Call RC_102844	PakBus Address	4094	

The data logger MUST be assigned with the full hilltop site name and correct Pakbus address

Com 100 (UDPTerm) Com Y Tauakira Com Y Tauakira LN UDP	🔽 Communicati	ons Enabled	
B Sk LN UDP Group	Delay (ms)	Phone Number	
Call AQ TAM	0	Air Quality at Taumarunui	
PakBusPort_8		<add number="" phone=""></add>	
Call OMK Call RC_102865 Call RC_102865 Call RC_102044			

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LoggerNet Telemetry Basics

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Add Root Add Delete Rename Undo Redo			EZ View
Network Map Cal WAK Cal WAK Cal WTF Cal WAK Cal Cal Cal Cal WAK Cal	Makohine at Zohs Hardware Schedule Data Standard F Communications Enab F Call-Back Enabled PakBus Address	Road : CR800Series Files Clock Program File Ret led 105	ieval Notes
	Maximum Packet Size Security Code Delay Hangup	00 s 000 ms	*
Check Apply Cancel	No problems found w	vith settings for the selec	ted device

The Datalogger has a number of tabs for defining the connection

Hardware	Enable/disable communication, set the Pakbus address
Schedule	Set up the call schedule, for most sites use 30min interval with 1 retry
Data Files	Set up the Data files to record into the LoggerNet Telemetry directory. Store into a folder of the full site name with files saved as XXXdat. i.i. TEM_Data_5min.dat. For new site setups retrieve the table definitions first.
Clock	Enable the Automated Clock check with a 10s reset
Program	Will display the current logger program
File Retrieval	Not used, applicable to web cams etc
Notes	Enter relevant notes for the site, include the site code XXX



The Data files can be set, this will first require the table definitions to be retrieved from the remote logger, so is only possible once the logger has been installed with successful comms.

Once the Table definitions have been received then direct the Output files to the LoggerNet Telemetery directory on <<u>\\CD1\Telemetry\loggernet Telemetry</u>> The data should be stored in a folder named with the full hilltop site name.

Data table formats are XXX_Data_tabledescription. i.e. ZOH_Data_Rain1 Map all the data tables but exclude the public and status



Once the Site has been defined then the scheduled data call will store data into the LoggerNet telemetry directory.

To decode the data a .dsn is required these are of the format

[Hilltop] Style = csv Form = {CSV file} File = <u>\\pnt-cd1\Telemetry\Loggernet Telemetry\full site name\XXX.dat</u> Site = {Enter site name}

With an example

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[Hilltop] Style = csv Form = DATA_Status File = \\<u>pnt-cd1\Telemetry\Loggernet Telemetry\Whanganui at Te Maire\TEM_DATA_Status.dat</u> Site = Whanganui at Te Maire

The csv form needs to match the data table format with a number of prebuilt forms matching standard tables

Csv forms should be in the format DATA_<descriptor> with the standard forms used where possible For unique tables such as some 15min items then use DATA_15min_,datasource or site specific> and should be program idependent and stay static with program upgrades if the table structure changes.

The XXX_Update.bat file is used to pull all the data together and output to .hts files The original archive is <u>\\pnt-cd1\original\internal\</u> with sites stored as XXX.hts

The update file format is

rem C:\HILLTOP\htsUpdate.exe "SOURCE" "DESTINATION" D (destination control)

The source is the .dsn file with the destination as the original hts, a separate line si required for each dsn. Next an update from the original hts to LoggerNet.hts is required.

The LoggerNet Telemetry directory contains templates of both the dsn and update files.



LoggerNet Telemetry Basics

Connect

The Connect screen works as per in the field. Sites can be manually interrogated for function and sensor performance as well as flags activated and thresholds adjusted.

It is best to use the Status Monitor for data collection unless performing a custom collection.

Anect Collect Now Custom	Station Status	File Control	Num Display	<u>G</u> raphs	Ports & Flags	
ations	Table Monitor: F	assive Monitori	ng ▼ [□ Show Ur	nits	Clocks Adjusted Server D	ate/Time
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Whangaehu at Titoki Whangamomona at Bridge to Z List Alphabetically						
0:00:00	Stop	Inter	val 00 m 01 s			-





The Status Monitor shows the comms and data state of the sites. Important fields are the "Netowrk map" and"Last Data Coll"

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Making at Reids Line		offline	0.00%	normal	23/00/2013 10-36-46 a	23/08/2013 11:02:00 a.	25	25	00 00-00-01	17/07/2813 12:05:30 a.
Makohine at Zohs Boad		offline	4.94%	normal	23/00/2013 10:32-19 8	23/08/2813 11:01:00 >	8	8	00.00-00-05	11/01/2013 12:01:24 *
Manawatu at Apiti Track		offline	0.80%	normal	23/08/2813 10 34 23 8	23/08/2013 11:03:00 2.	6	6	09 09 09 09	17/07/2013 12:05:58 a.
Manavartu at Flopdway		offline	0.80%	normal	23/08/2013 10:33:09 a	23/08/2013 11:03:00 +	6	6	00 00-00-01	22/08/2013 12:03:11 a
Manawatu at Moutoa		offline	0.00%	normal	23/08/2813 10:47:03 8	23/08/2013 11:02:00 a	10	10	00 00:00:00	22/08/2013 12:02:26 s.

The Network Map shows the list of sites under the current Subnet. The Subnets are defined on the setup Menu and can be edited to show different collections. The site has a comms icon that is colour coded to the current status; a histogram shows the recent comms history.

The rest of the columns give relevant statistics on the call history with the "Last Data Coll" giving the last time the site was integrated.

Under "Tools" a State of operations log can be viewed to look at the schedule of current operations



From the Status Monitor the Log tool can be activated

LogTool					
File View Options Help	1112				
F Pause al (a) Clear All (A) 7 (a) (a) (a)	× · ·				
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<u> </u>		2			
Dbject State Log "2012-09-26 11:11:59", "PakBusPort_23", "Release Tra "2012-09-26 11:11:59", "PakBusPort_23", "Csi::PakBus "2012-09-26 11:12:05", "PakBusPort_32", "Request Tra "2012-09-26 11:12:05", "PakBusPort_32", "Transaction "2012-09-26 11:12:05", "PakBusPort_32", "PakBusTran "2012-09-26 11:12:05", "PakBusPort_32", "Release Tra "2012-09-26 11:12:05", "PakBusPort_32", "Csi::PakBus "2012-09-26 11:12:05", "PakBusPort_32", "Csi::PakBus	nsaction Focus", "PakCtrl::H ::Router", 'leaving close_tr nsaction Focus", "PakCtrl::H focus start", "PakCtrl::Hello", :Router", "Actrl::Hello", :Router", "entering close_tr ::Router", "leaving close_tr	<pre>fello*,"1","16" ransaction* fello*,"208","62" llo","208","62" ransaction* fello*,"208","62" ransaction* fello*,"208","62" ransaction* </pre>			
<u> </u>		2			
2012-09-26 11:12:12		Connected: localhost			

This is a very useful tool for checking comms errors and following transactions. Access the low level log for the comms path of interest to see more site detail.



LoggerNet Telemetry Basics

🔅 Task Master

The Task Master allows for scheduled tasks to be run either dependant or independent of site calls. The most useful application is to run the bat files for the hts data load after a successful call.

Tasks	How Update LTR Starts					
Ngaruroro Catchment at Ngamatea Update NTA Waimarino Forest Climate Station Update WAF Rangtikei at Pukcekahu Update PUK Update MIP WQ Koitiata Kahuterawa at Johnstons Rata Update Kohiata Kahuterawa at Johnstons Rata Update TRF Linton Drain at Tane Road Update MIN Mounganui Update MIN Tapuae Whangaehu at Karioi	Station Event Type After Any Data Collected Task Scheduled Base Time 14/08/2009 12:00:00 a.m. Schedule Interval 0 d 01 h 00 m 00 s What Update LTR Does File to Run: 0:\Loggernet Telemetry\Linton Drain at Tane Road\LTR_Update bat					
Add Scheduled Add After Delete	Configure Task					