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Department of **Water**

# IP Telemetry





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# Rationalise network

Existing dial-up network 170  
systems comprising;

Mini Sat M

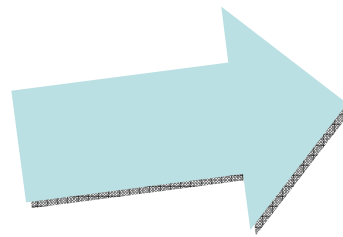
Iridium

NextG

GSM

Landline

Point to Point



IP network

– NextG

– Globalstar





# The Trial

- Commenced early 2008
- Initially 5 NextG and 5 Satellite
- Expanded to another 5 Satellite (BoM)
- Antenna issues
- Service issues





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# Acceptance Testing

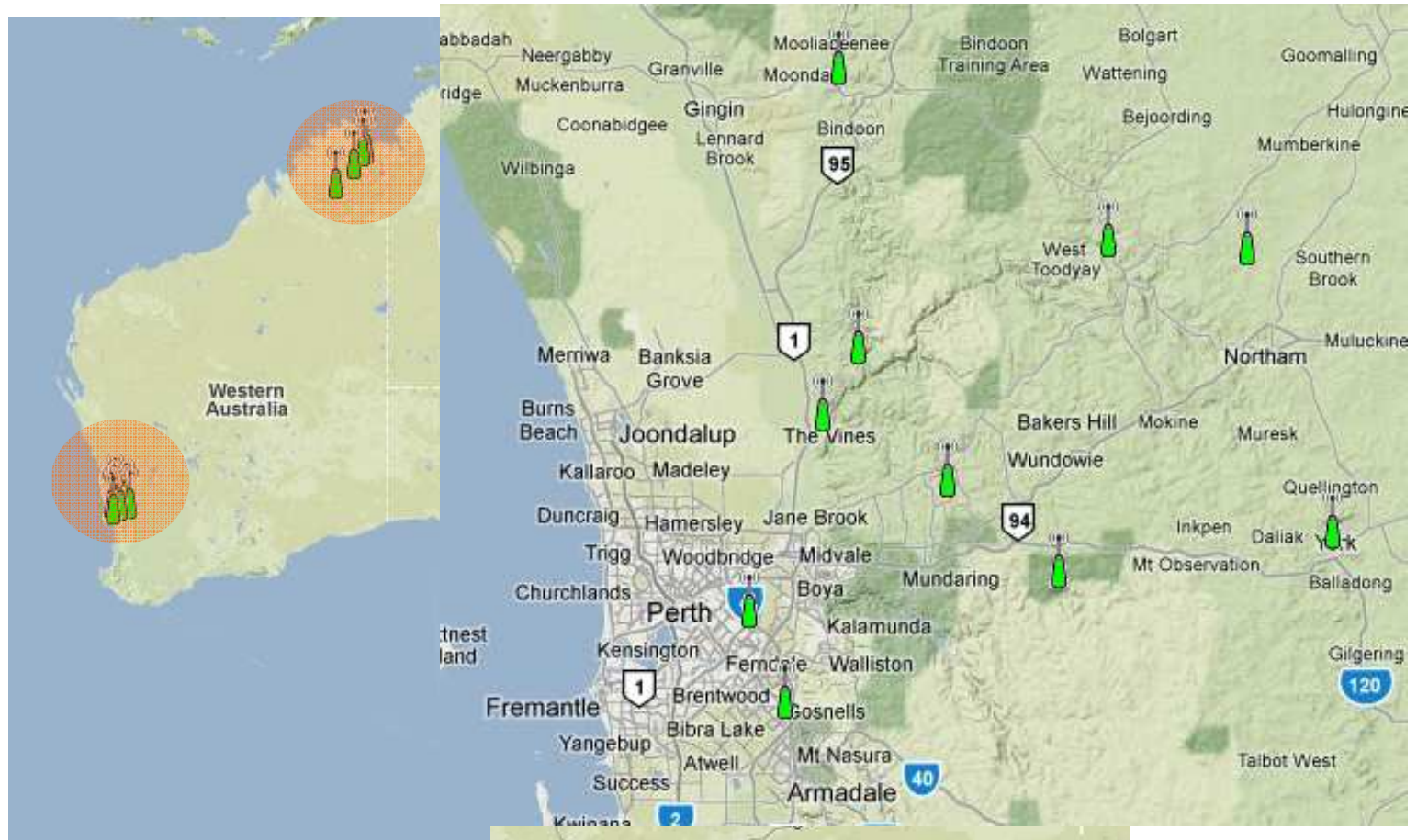






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# Site Locations







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# Site Photos - NextG



**Brockman River "Tanamerah"**





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# Site Photos - NextG

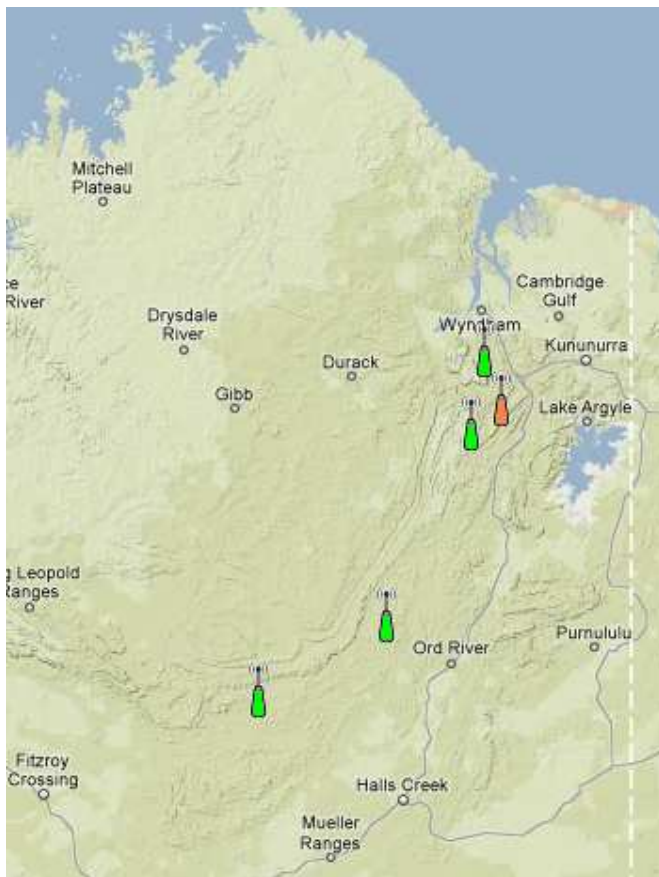






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# Site Photos - Satellite







# Compatibility with Existing Loggers

- Current loggers half way through replacement cycle
- IP system incorporates logger
- Two master's on same SDI-12 bus
- Timing... SDI-12 clashes





# Sdi-12 Listener

- Allows 2 masters on bus
- Interchangeable - Active/Listener
- Failsafe - if one side fails reverts to logger
- 12v low power





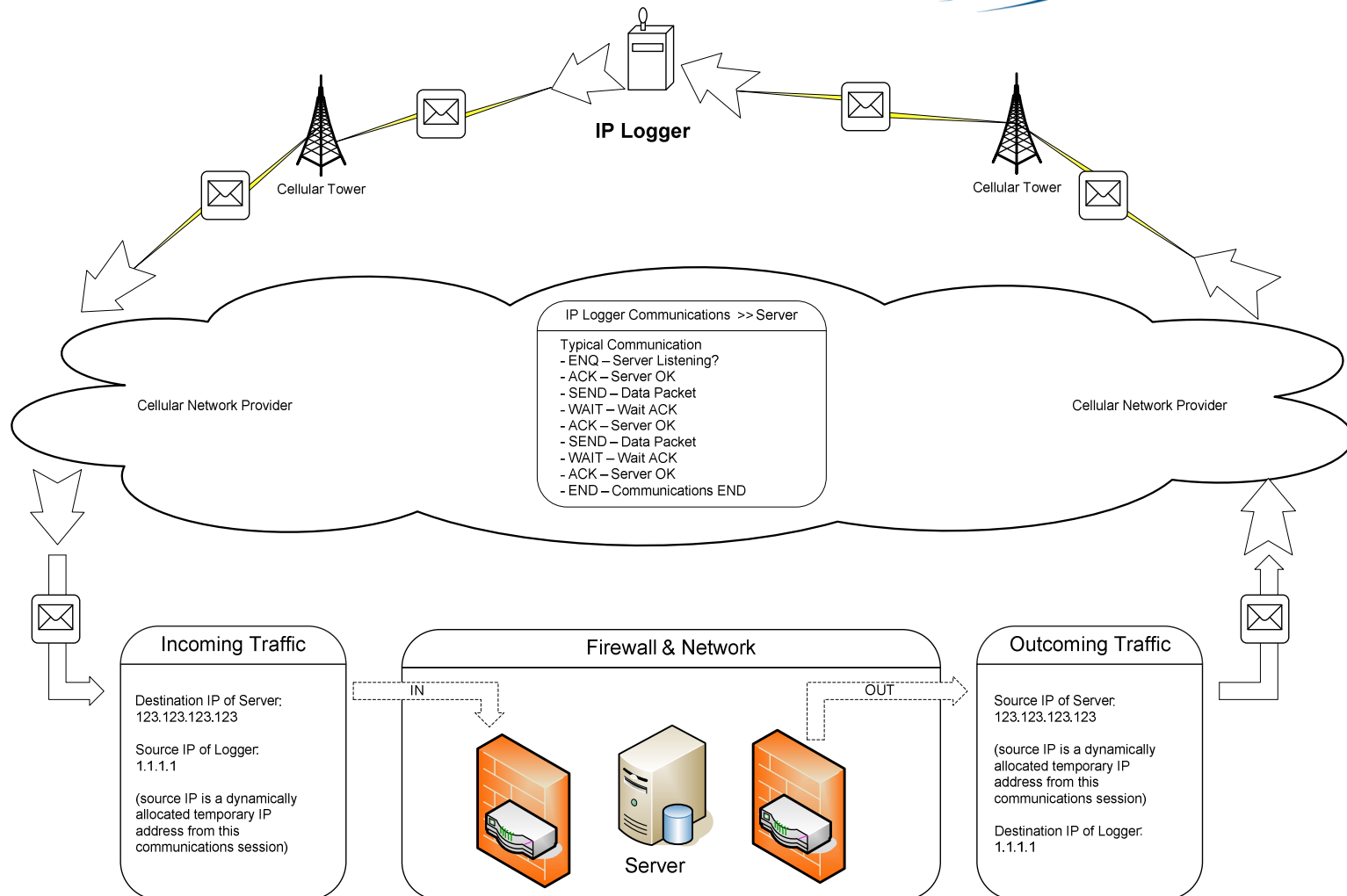
# Costs

- Capital cost high (includes logger)
- NextG - \$7/month plan
  - includes 5mb , ok at 10 min
- Globalstar - \$30 /month plan
  - Hourly ~ \$20 per month call costs
  - Average total cost \$50/month





# TCP / IP- UDP Communications







# Security

- data packets in binary (not ASCII).
- UDP (User Datagram Protocol, designed for speed with application error checking).
- use a SIM card
- Private APN





## Compressed Data

- Send raw compressed data
- “thin / cheaper” communications pipe from logger
- More secure over the internet

