

# Remote Data Collection

Bryan Hodge

Remote Data Communications Manager

# What remote data are we collecting?

Data from approx:

- 530 automatic weather stations
- 482 co- operative weather observers
- 75 staffed sites
- 2800 online rainfall stations
- 150 marine observation platforms

# Existing Network Summary

- 75% PSTN /Cellular
- 10% Satellite
- 5% Radio
- 5% Locally connected
- 5% Internet/External

# Proposed Vision

- Entire AWS network to 1 minute reporting 2-3 years
- Entire network IP 2-3 years
- Legacy network disconnected 2-3 years
- Highly redundant architecture
- Highly reduced operating costs

# Motivation

- Improving our service....and
- Saving \$250K-600K per annum
- Example : Average PSTN cost \$80p/m (1hr)
- Next G Solution approx \$5 (1min)

# Strategy

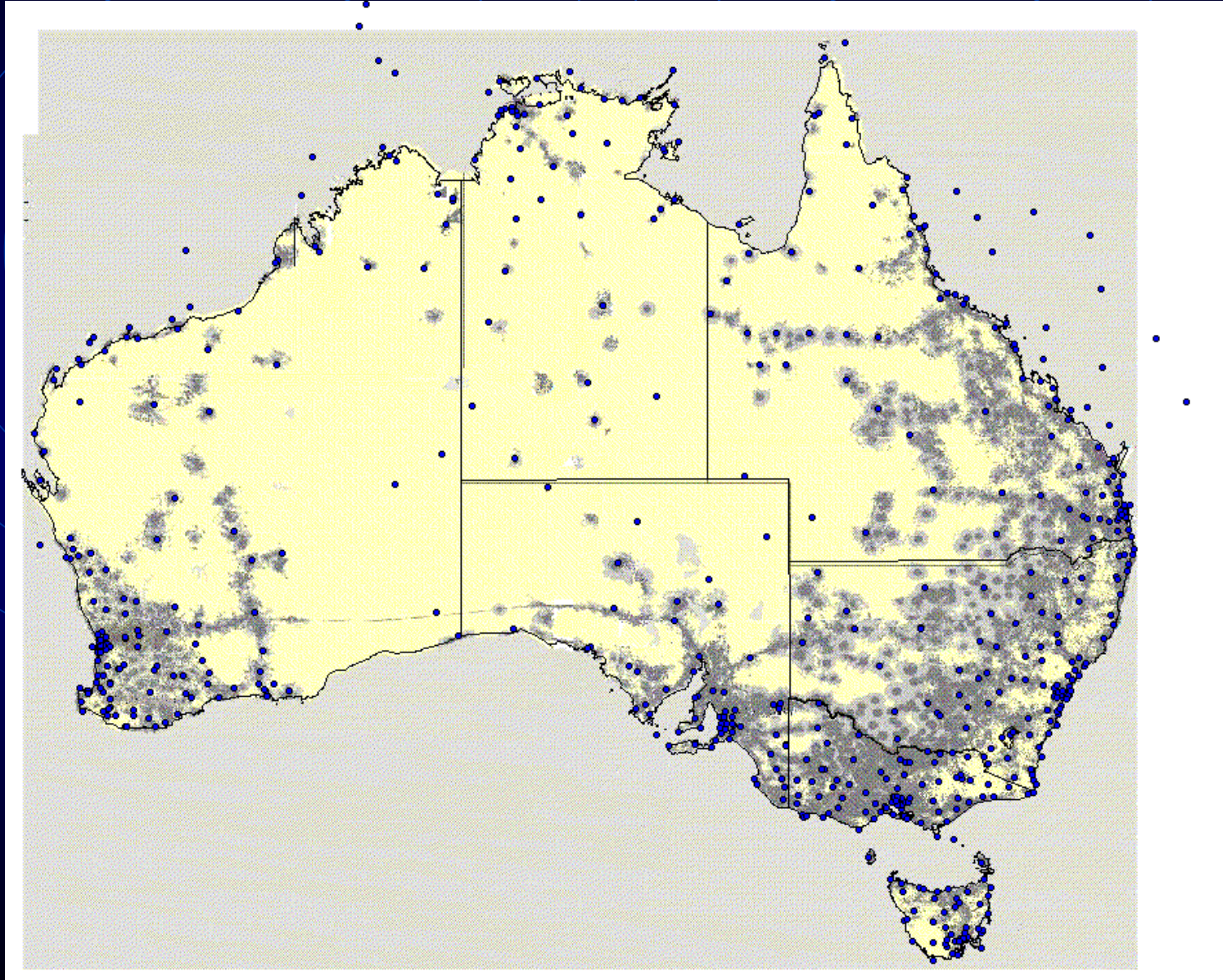
- Site by site survey of communications options
- Site by site assessment of operational importance
- Dual network overlays to match importance
- Dual network/streams match DRS strategy

# Technology review

- SLA target
  - 99% for entire network
  - 95% for a single site
- Cellular Networks most suitable
- L/C band satellite networks to complete coverage maps
- Combinations used to compensate for SLA issues with cellular



# Telstra Coverage

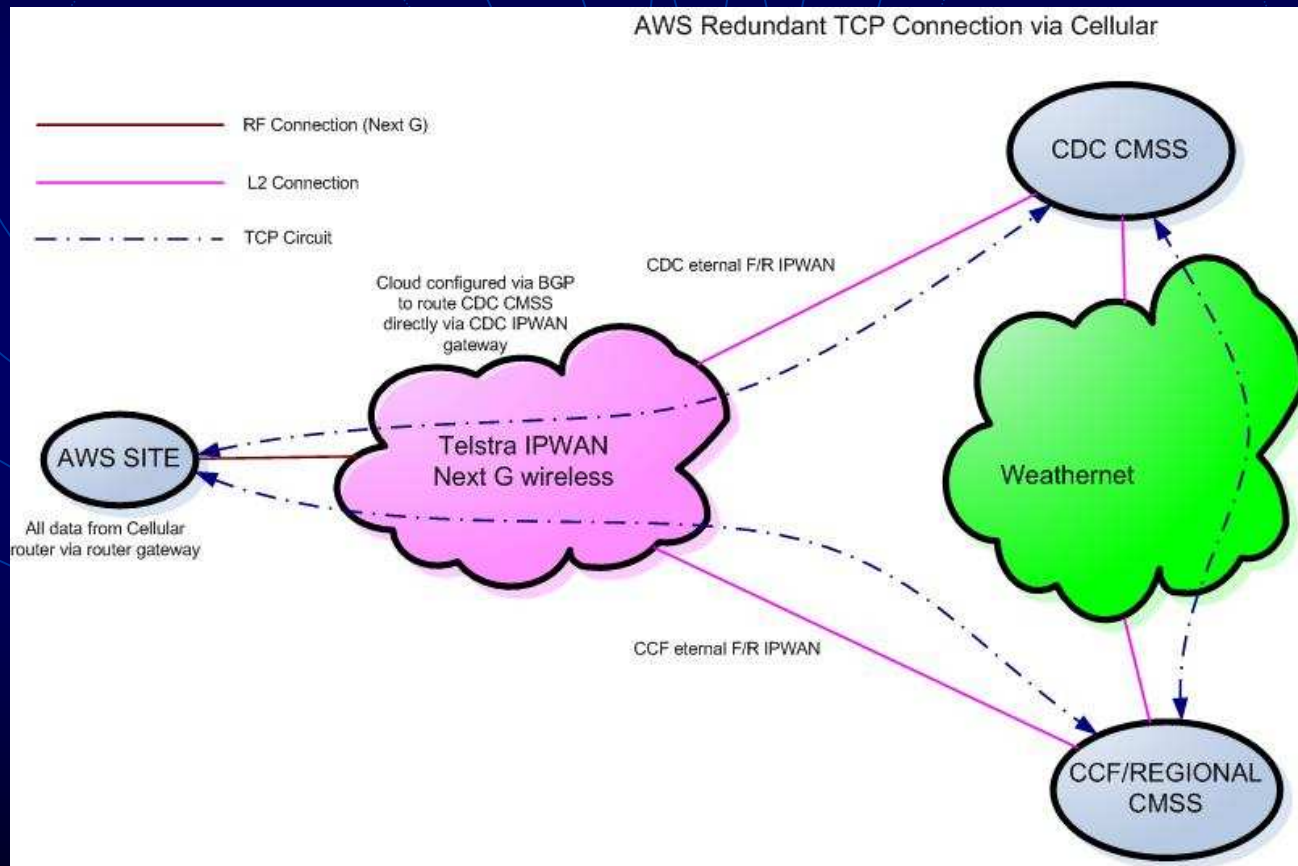




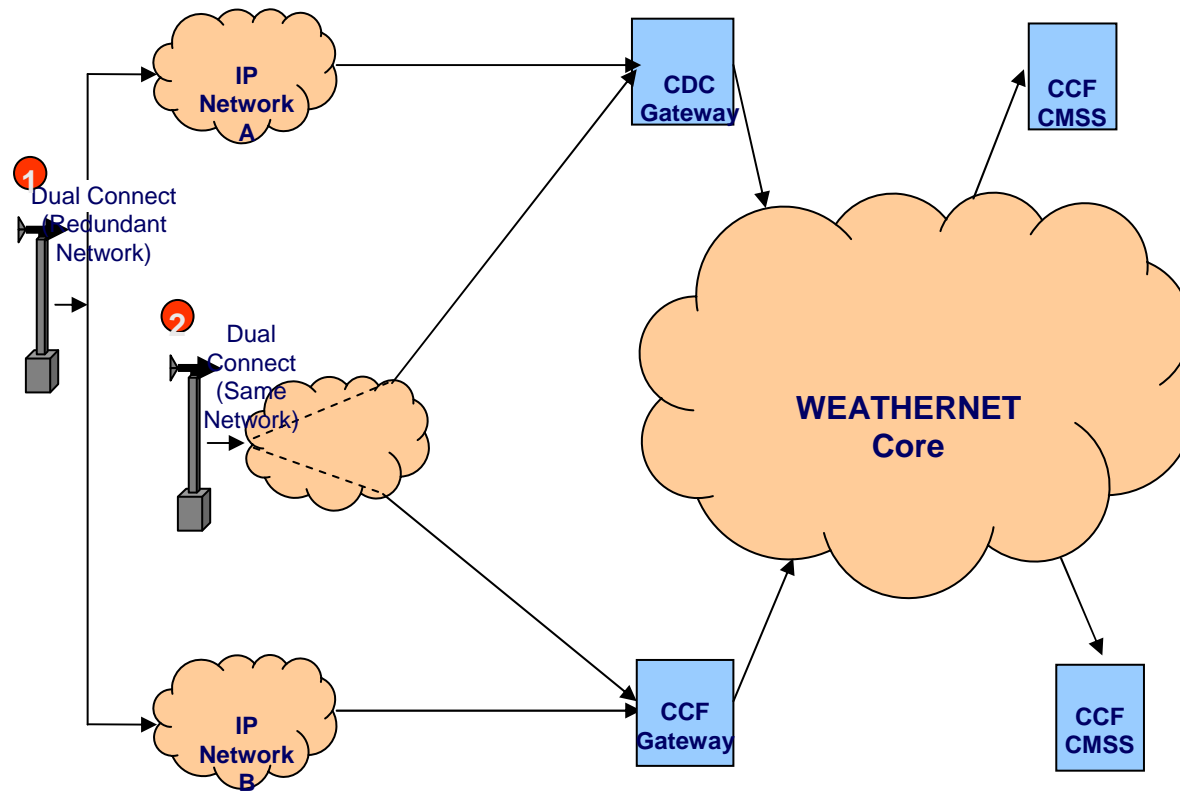
# Cost of ownership

Prices in USD						
System	System Purchase Cost(approx)	Installation cost inc site works	Freight (South Pacific /Remote Australia)	Specialist Installer required to travel to location (South Pacific /Australia?)	Power system Upgrades required to existing AWS sites	Total cost of Installed system
Iridium SBD	\$1,000	\$500	\$150	(NO)	No	\$1,650
Iridium CSTC	\$2,500	\$500	\$150	(NO)	NO	\$3,150
Iridium Openport	\$10,000	\$500	\$300	(NO)	\$2,000	\$12,800
Thuraya GMPRS	\$1,000	\$500	\$100	(NO)	NO	\$2,400
Inmarsat BGAN	\$2,500	\$1,500	\$200	(NO)	\$1,500	\$5,700
Inmarsat GAN	\$10,000	\$1,000	\$300	(YES 1 Pax) \$3000	\$2,000	\$16,300
C band VSAT (2.4m)	\$4,000	\$10,000	\$1,500	(YES 2 Pax ) \$6000	\$4,000	\$26,500
Celluar	\$1,000	\$500	\$150	No	\$500	\$2,150
DCP system	\$6,000	\$500	\$500	(YES 1 Pax ) \$3000	\$500	\$9,500

# Redundant Strategy Cellular



# Redundant Strategy Combined



# Operational Philosophy

- Parallel data streams
- Parallel systems
- Redundant processing sites and infrastructure
- Site of high importance have communications redundancy
- Networks are private and secure

# NG-ASOS Redundant Architecture Diagram

