WA POLICE COMMUNICATIONS ECOSYSTEM

Tranche 1, 2 and 3 Coverage Area
Tranche 4 Coverage Extension

Effective communication platforms need to be unified. The integration of voice, video, and/or data services delivered universally across the network infrastructure, to provide increased situational awareness and effectiveness to frontline service providers.

For police, the end game is to provide officers with the information they need to *solve the crime or find the person at risk 'FASTER',* involving a multi-agency response where required.

From calls for help on 000 /131444 phone calls to State Communications
We want to ensure
- our police response is the best it can be,
- 'anywhere' voice and data communications (Satellite/4G/Radio)
- livestreaming video (BWC, RPAS, other Aircraft, CCTV),
- 'field sensor' live data collection (ANPR, Telco data, WIFI, Bluetooth),
- real time alerting,
- deconfliction and
- big data analytics

THE WA POLICE FORCE JOURNEY – DECISIONS TO MOVE TOWARDS DESIRED END-STATE

2019
One Force Phones

o Forming digital policing
o Rapid development of policing applications
o Unlimited personal use
o No black listed applications

2022
Engaging with industry experts

o The alignment to remote operations for Oil & Gas or mining and emergency services (public safety) and for Police are similar.
o The requirement for data and voice (and automation)

2023
Proofs of Concept

o Government Service agnostic
o Scalable
o Provisioned to an Operations Centre to share in real-time with partner agencies

2021
Communications as a capability
o Understanding all the current projects
  • ESRN
  • CIP
  • State Communications
    • Consoles
    • Dispatch by data
    • Self-dispatch
    • CAD replacement
  • SSS Portfolio

2022
Conducting a series of trials

o Industry led
o Police led
o Multi-jurisdictional

Search and Rescue Capability Demonstration - Fugro

Fugro simulated a capability of Search and Rescue (SAR) and Virtual Hard Boarder (VHB) through the remote operations architecture. The Fugro system will be deployed to Mt Augustus to perform a live scenario driven capability demonstration for three main scenarios listed below:
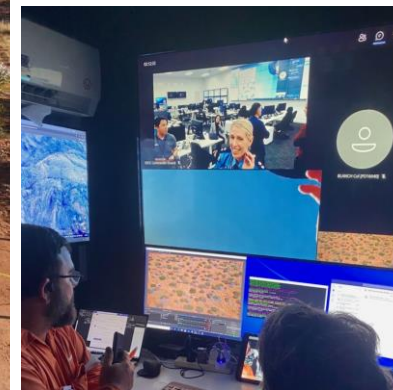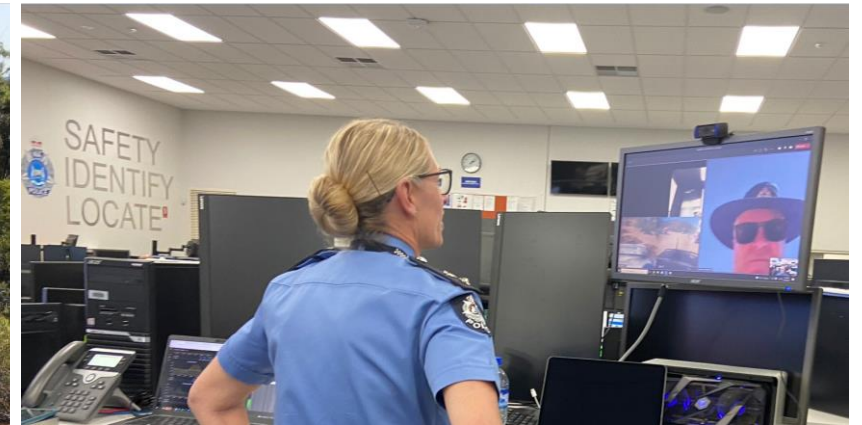
Scenario 1: Missing Person

- Case 1A: Mountain Climbing Missing Person

- Case 1B: Desert Hiking Missing Person

    - Scenario 2: Emergency 000 Call Rapid Response

    - Scenario 3: Virtual Hard Boarder

The operations were managed by the SOCC with a forward command in Burringurra.

RESULT
Developed Industry partners and capability was proven.

SATELLITE TECHNOLOGY TRIALS

1. **Explorer 323 L-Band - Burringurrah**
   - GEO service
   - Small form factor and able to be installed on all types of vehicles
   - Limited to voice and low-level data (SMS, WhatsApp etc.)
   - Not all OneForce applications worked, no video
   - Firewall issues as data land outside Australia
   - Limited bandwidth (max 350Kbps upload and 750Kbps download)
   - Very high latency
   - Not a dedicated service, bandwidth is shared across all users
   - Limited to the number of users

RESULT
× User experience is good
× Good bandwidth
× Expensive cost for good result – not scalable

2. Iridium Certus L-Band - Meekatharra

- LEO service

- Small form factor and able to be installed on all types of vehicles

- Configured to use Sierra modem and OneForce password

- Unable to use all OneForce application, Office 365 and Teams

- Video very low quality

- Firewall changes were implemented to enable OneForce Core applications to work - data lands outside Australia

- Limited bandwidth (max 350Kbps upload and 702Kbps download)

- Very high latency

- Not a dedicated service, bandwidth is shared across all users

- Limited to the number of users

RESULT

× User experience is good
× Good bandwidth
× Expensive cost for good result – not scalable

3. Kymeta KU band - Meekatharra

- GEO service

- Very large antenna, restricted installation options

- Configured to use Sierra modem and OneForce password

- Able to use all OneForce application, Office 365 and Teams

- Video good quality

- No firewall changes are needed as service lands in Australia

- Dedicated bandwidth (up to 2Mbps upload and 5Mbps download) – can be connected directly into the Police network if required

- Reasonable latency

- A dedicated service, bandwidth is guaranteed

- Can have multiple users connected

RESULT
- ✓ User experience is good
- ✓ Good bandwidth
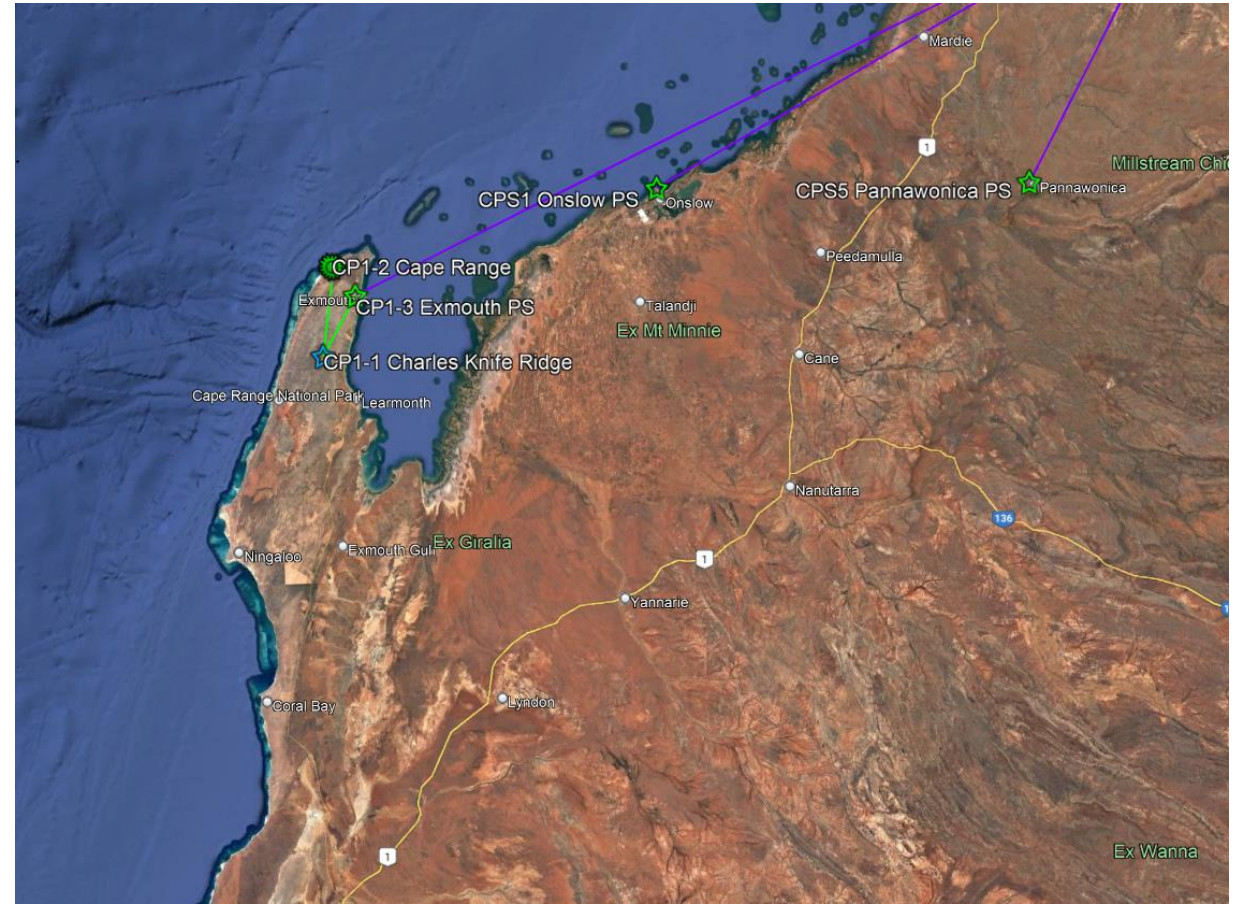- ✗ Expensive cost for good result – not scalable

KYMETA™

4. Starlink KU Band – Norseman Search/Leavers

- LEO service

- Small size antenna – Mobile antenna slightly larger

- Configured to use Sierra modem and OneForce password

- Able to use all OneForce application, Office 365 and Teams

- Video very good quality

- No firewall changes are needed as service lands in Australia

- Not a dedicated bandwidth (50 – 500Mbps)

- Very low latency

- Can have multiple users connected (128 devices)

- Used for a LandSAR near Norseman November 2022 with good feedback

- Used at the Zone for Leavers 2022 – minimal dropouts, 26 users connected concurrently

- 55GB of data used in 4 days operation – 4 days x 6 hours – 2.2 G per hour
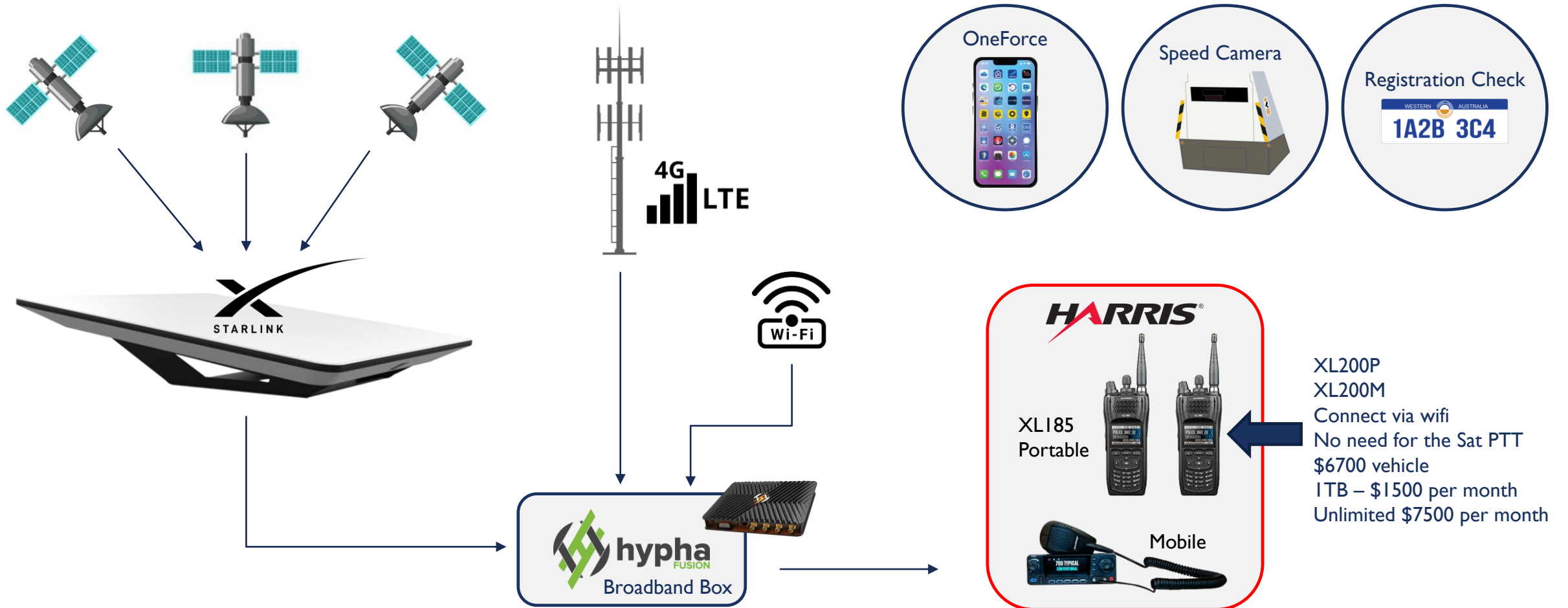
- Unlimited data plan – Enterprise plan approx.

RESULT
- ✓ User experience is good
- ✓ Good bandwidth
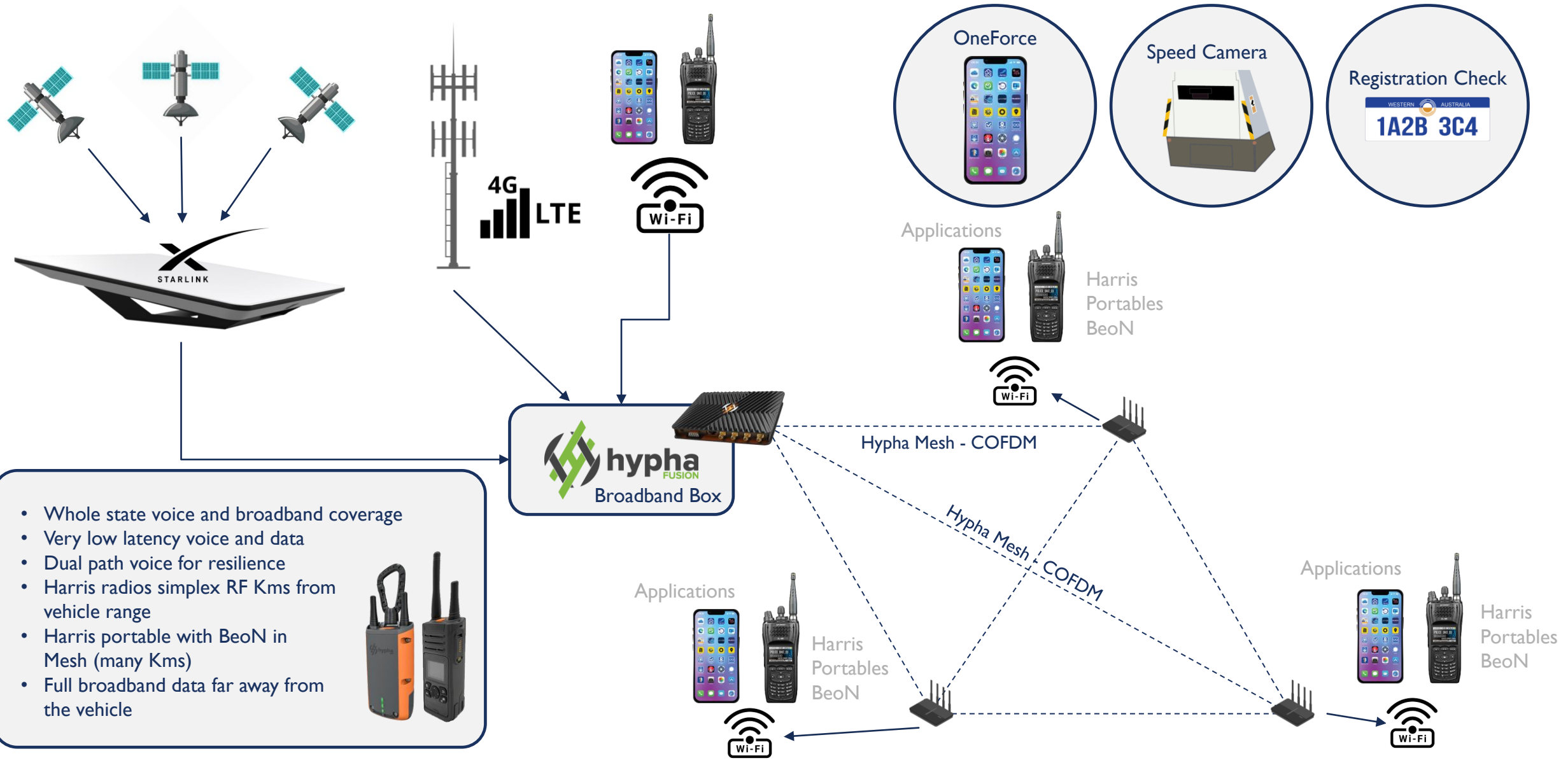- ✓ Expensive cost for good result – not scalable

SATELLITE TECHNOLOGY PROOF OF CONCEPT - EXMOUTH VEHICLE ONE

OneForce

Speed Camera

Registration Check

WESTERN AUSTRALIA
1A2B 3C4

4G LTE

Wi-Fi

STARLINK

HARRIS®

XL185 Portable

Mobile

hypha FUSION
Broadband Box

XL200P
XL200M
Connect via wifi
No need for the Sat PTT
$6700 vehicle
1TB – $1500 per month
Unlimited $7500 per month

- Whole state voice and broadband coverage
- Very low latency voice and data
- Dual path voice for resilience
- Harris radios simplex RF Kms from vehicle range

SATELLITE TECHNOLOGY PROOF OF CONCEPT - EXMOUTH VEHICLE TWO

OneForce

Speed Camera

Registration Check

WESTERN AUSTRALIA
1A2B 3C4

4G LTE

Wi-Fi

Applications

Harris Portables BeoN

Wi-Fi

hypha FUSION
Broadband Box

Hypha Mesh - COFDM

Hypha Mesh - COFDM

- Whole state voice and broadband coverage
- Very low latency voice and data
- Dual path voice for resilience
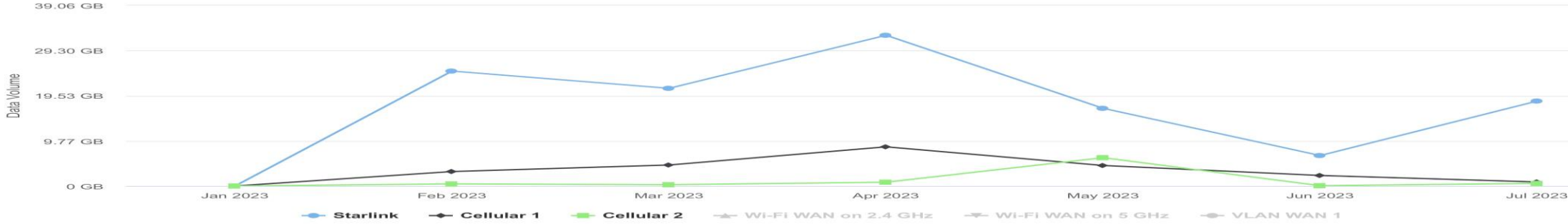- Harris radios simplex RF Kms from vehicle range
- Harris portable with BeoN in Mesh (many Kms)
- Full broadband data far away from the vehicle

Applications

Harris Portables BeoN

Wi-Fi

Applications

Harris Portables BeoN

Wi-Fi

VEHICLE/VESSELS WITH STARLINK INSTALLED

Monthly Usage

Month		Download	Upload	Total
2023-07	☐ Project month-end usage	15.22 GB	4.59 GB	19.81 GB
2023-06		7.99 GB	0.95 GB	8.94 GB
2023-05		19.42 GB	7.94 GB	27.35 GB
2023-04		33.14 GB	8.74 GB	41.88 GB
2023-03		17.53 GB	8.41 GB	25.94 GB
2023-02		23.39 GB	5.04 GB	28.43 GB

Monthly Usage
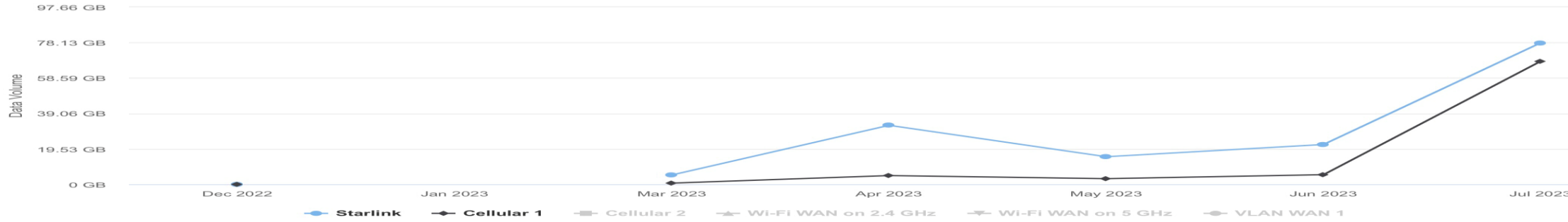
Month		Download	Upload	Total
2023-07	☐ Project month-end usage	14.48 GB	131.28 GB	145.76 GB
2023-06		22.39 GB	4.88 GB	27.27 GB
2023-05		14.96 GB	3.38 GB	18.34 GB
2023-04		30.12 GB	7.23 GB	37.34 GB
2023-03		5.36 GB	0.50 GB	5.86 GB
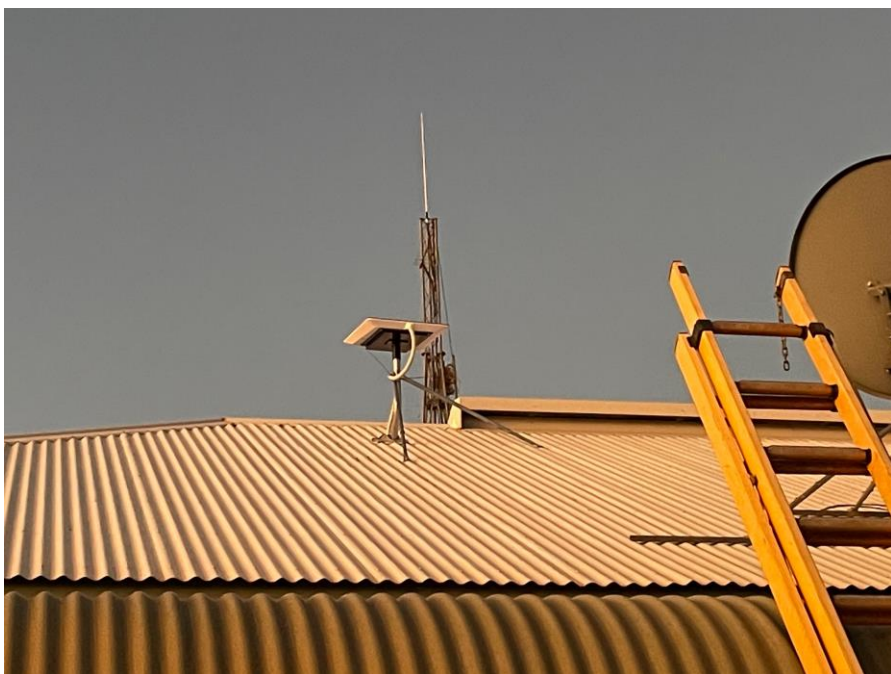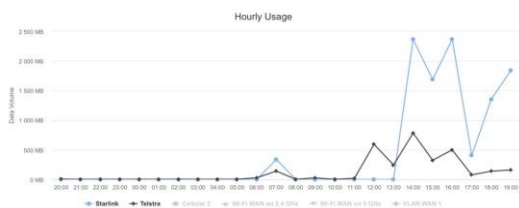
PROVIDING COMMUNITY SERVICES TO THE AREAS WHERE IT IS NEEDED MOST

WA Police Force are going to moving its State Operations Command Centre into the Wellington Street Telstra Exchange.

Future operations and capability development are dependent on the ability of ingesting large amounts of data for use in the application of new technology and systems to drive continuous improvement and enhance the ability to create a safer community through enhanced officer and community safety applications, faster identification of suspects, offenders, target locations (including entertainment precincts), visualisation and association of suspects, offenders and persons at risk.

This facility will deliver frontline officers and investigators with rapid access through their One Force phones to multiple video streams, data, analytics, and analysis, including some world-first technology solutions to increase situational awareness and resolve crime faster and make the community safe.

FIRST TO KNOW – FIRST TO SHARE

Being able to share data in real-time to partner agencies is a non-negotiable.

To be able to provide frontline services to those areas with the most need to driving WA Police to develop the communications platforms that will facilitate this.

We want the solution to be able to allow the use cases
- Mental Health practitioners conducting telehealth consultation in remote communities
- Alcohol and Drug programs
- Department of Education being able to provide expert STEM programs into the communities
- Family Violence Counsellors providing expertise
- Specialist child-health experts
- Department of Justice rehabilitation programs

While this list is not exhaustive, as you can see, although the emergency services and mission critical communications will always require our expertise to develop fit for purpose solutions, the capability is so much more than this.

WATER CORPORATION

Department of **Primary Industries and Regional Development**
GOVERNMENT OF WESTERN AUSTRALIA

Department of **Biodiversity, Conservation and Attractions**
GOVERNMENT OF WESTERN AUSTRALIA

Department of **Transport**

DFES Department of Fire & Emergency Services
GOVERNMENT OF WESTERN AUSTRALIA

Department communities

Department of premier and cabinet
Department of premier and cabinet

Department of health

QUESTIONS?