

# ***Developing the EHDl Database Systems in the Federated States of Micronesia***

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# Acknowledgements

FSM EHDI Team

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Joseph Lukan



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# Objectives

- Challenges
- The decision-making process
- Assess current status



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# Geographical makeup of FSM

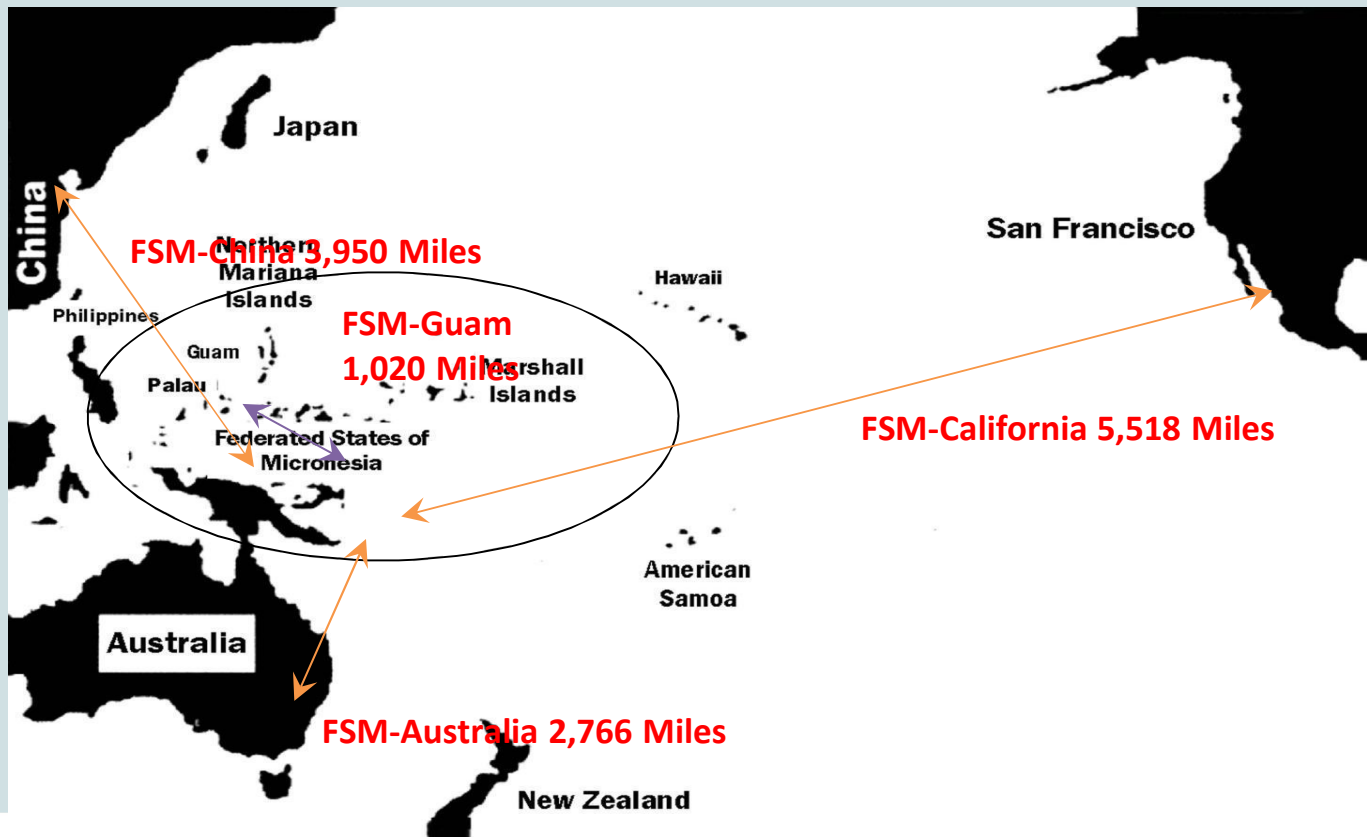
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# Where is the Federated States of Micronesia?



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# How do you get there?



The “Island Hopper”



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## Some FACTS about the FSM...

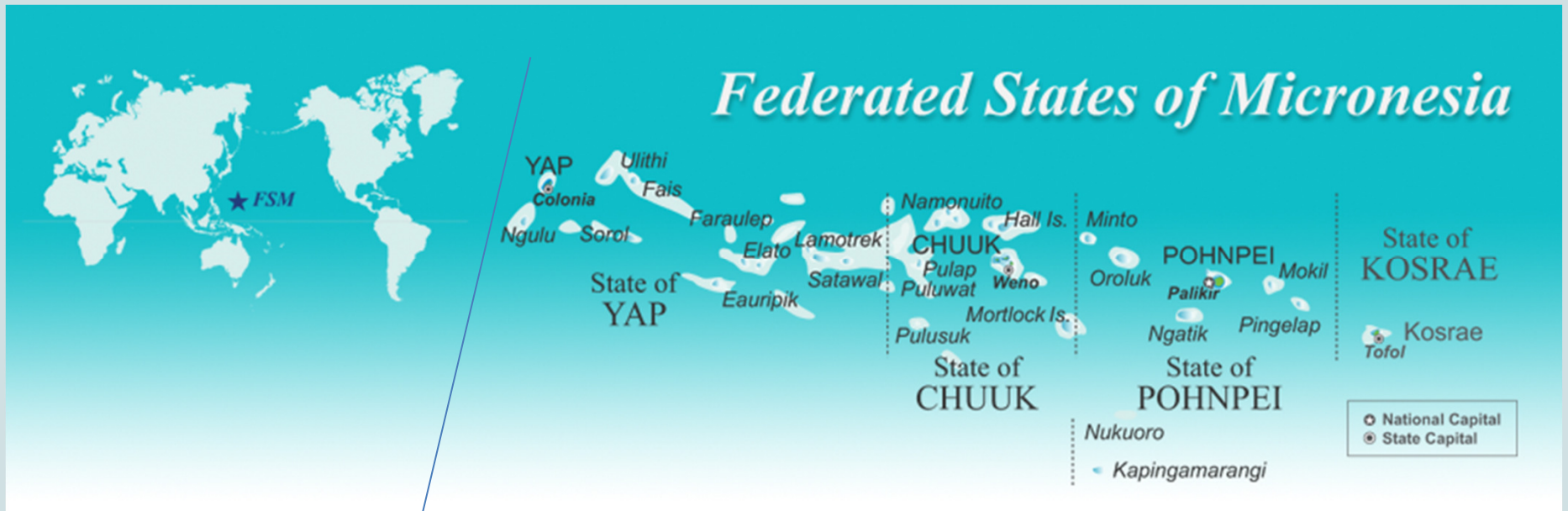
- **FSM has 4 States:** Pohnpei State, Kosrae State, Chuuk State, & Yap State
- FSM has a **Compact of Free Association** with the United States. Its citizens serve in the U.S. Military and FSM qualifies for U.S. Federal assistance
- FSM has a total **population** of approximately 107,008 as of 2011 and 2,200 **average births** per year
- **FSM National Government** is located in Palikir in Pohnpei State
- **FSM-EHDI National** is located in the Department of Health and Social Affairs in **Palikir**
- Each FSM State has its own **State EHDI Program**



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# Understanding How Many Islands Really Compose the FSM



.....but a closer look at each State is needed to understand the many challenges!

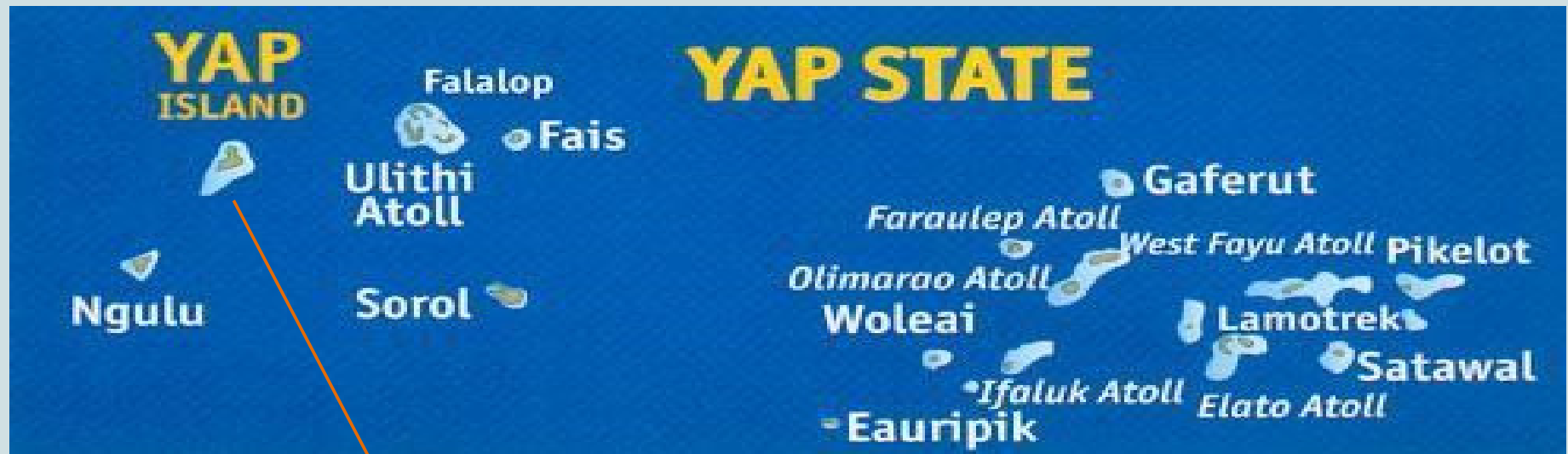


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# The Many Islands of Yap State



Main Island



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# The Many Islands of Chuuk State



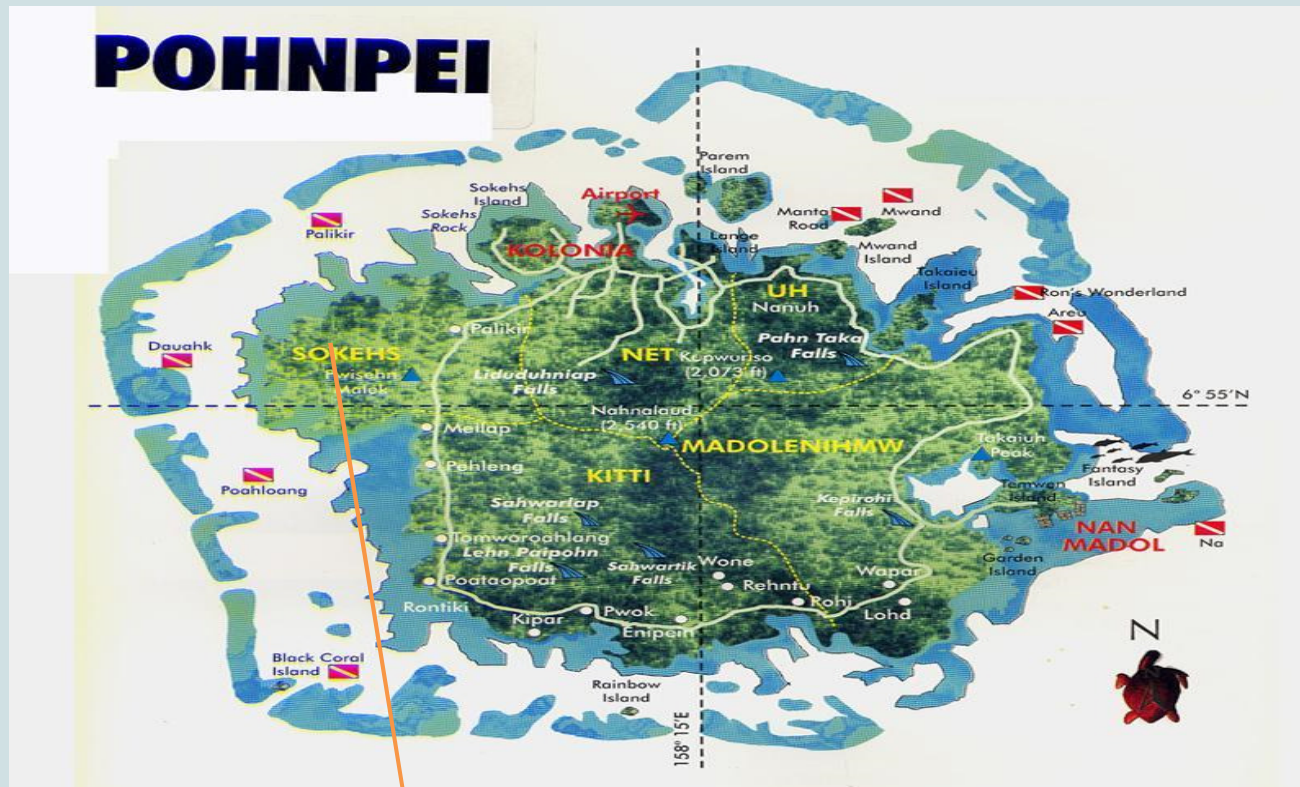
Main Island



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Pohnpei State



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Palikir-National Government



# Kosrae State is a Single Island



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# Historical Evolution and Decision Making Process

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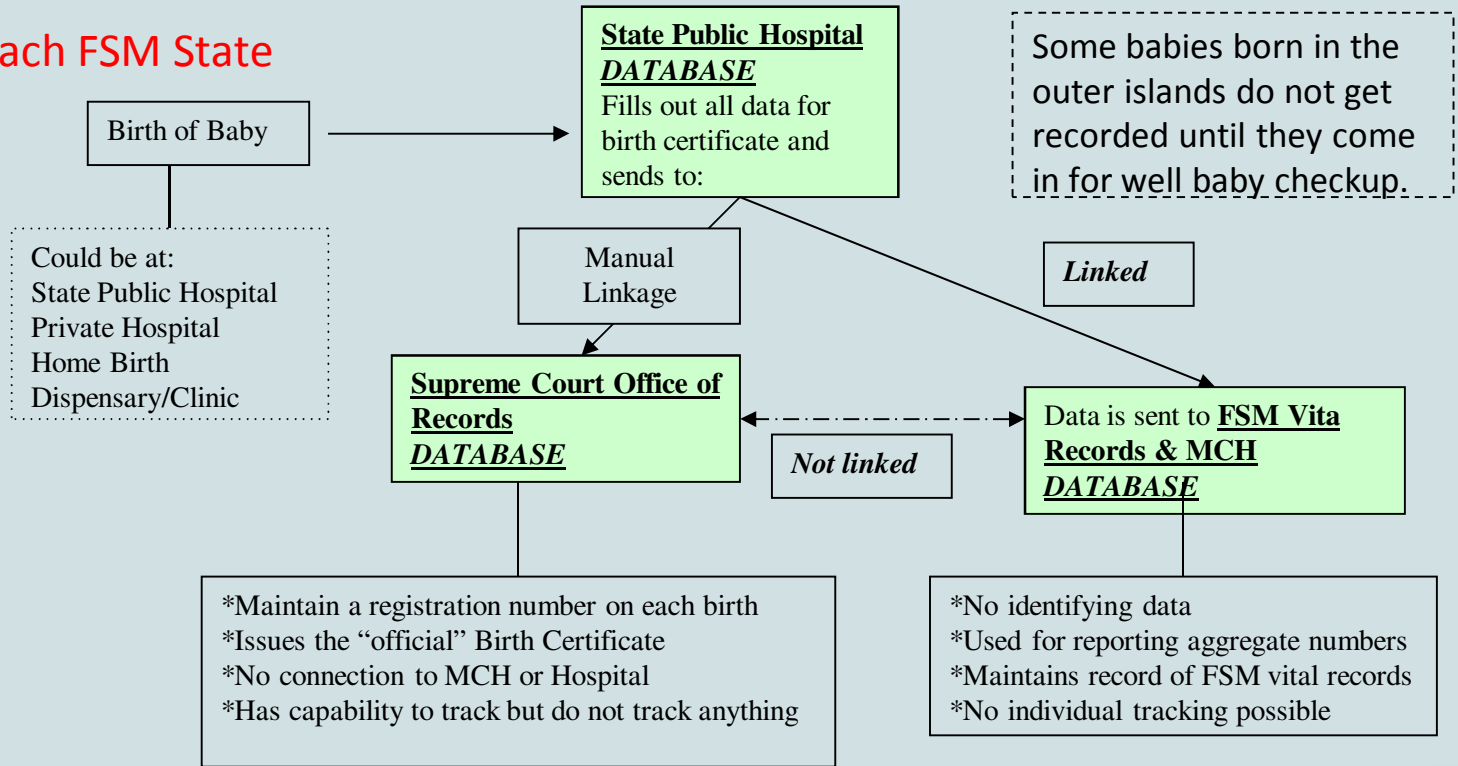


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# Data Management of Births PRIOR to CDC-EHDI Tracking & Surveillance

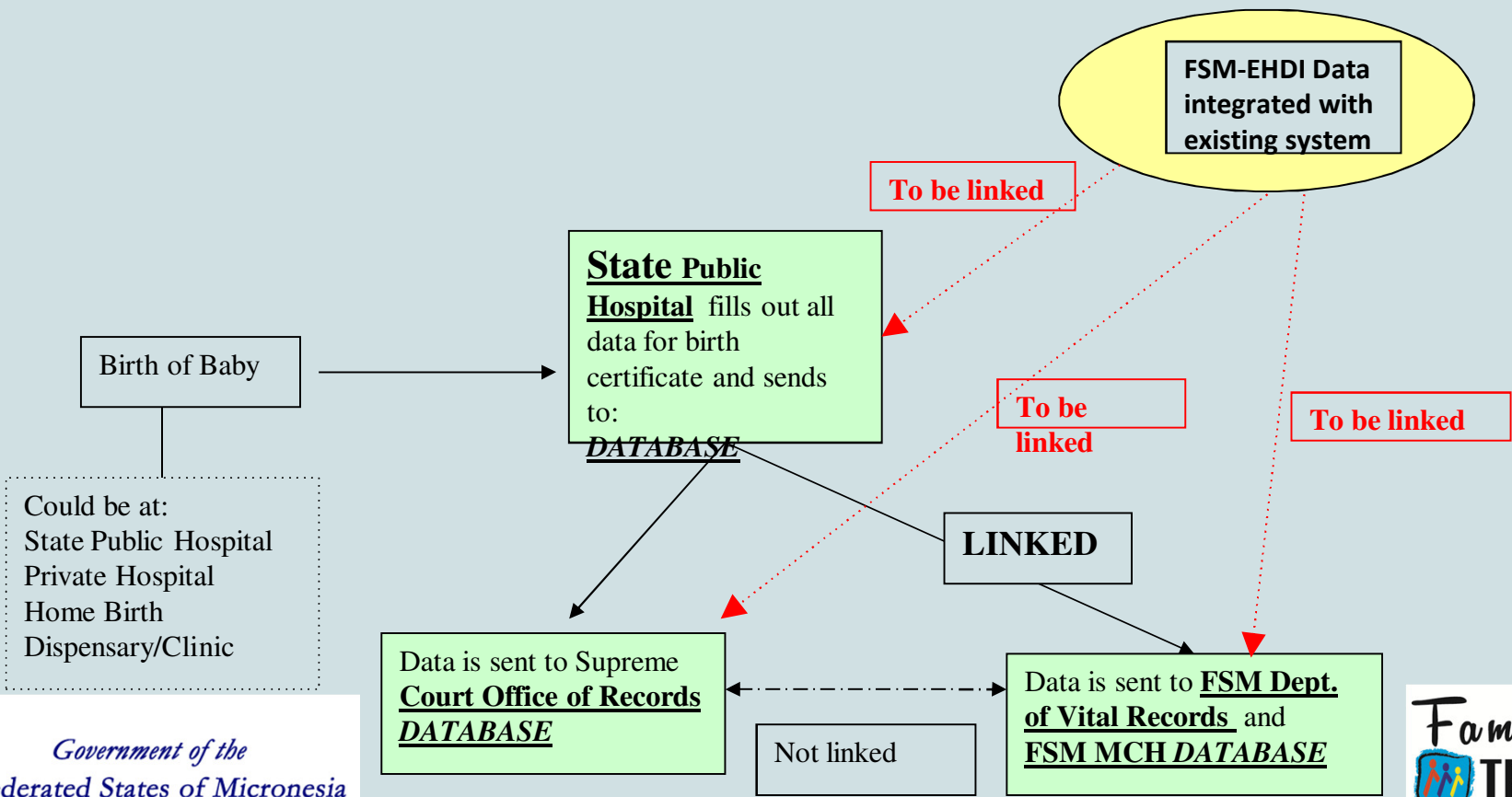
Each FSM State



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# The Original Vision for the FSM-EHDI Database System



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# Major Challenges in Establishing The System

- Ordering the servers for each of the 4 FSM States took too much TIME!
- Court Office of Records database system in each State is entirely a paper-pen system. No electronic system in place
- FSM Vital Records was still in development for moving to a electronic system with the effort to establish their Health Information Record (HIS).
- Establishing a new database system met with protocol resistance from the MCH Data Clerks in each state.
- Hearing Screening was already taking place and we had to have a method to record babies being served.

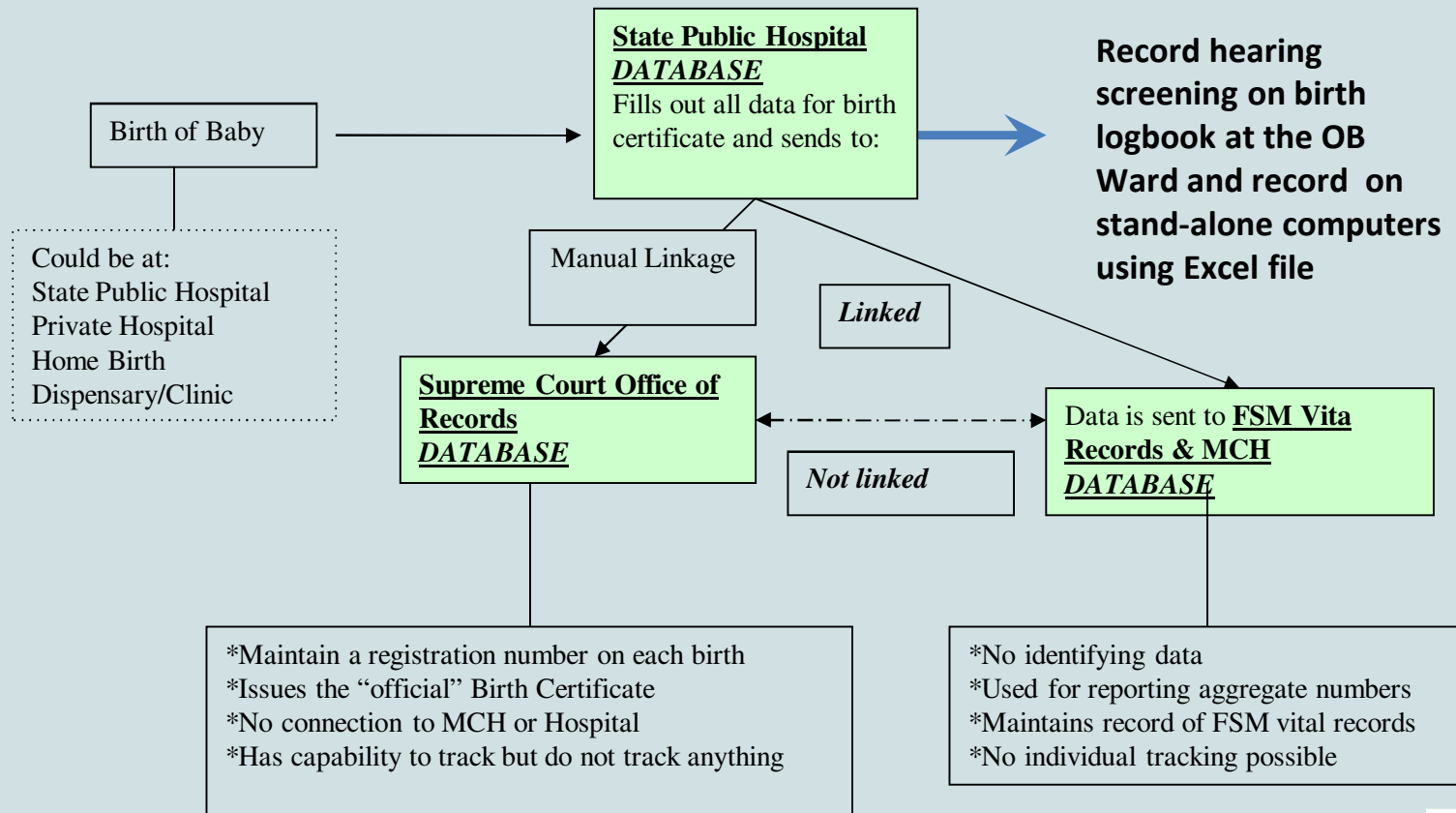


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# Temporary Solution During Developmental Phase of Database System



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## More challenges as time went on....

- There was no data sharing across the FSM States, no one knew what the others were doing or how well they were doing it
- Aggregate reports from each State could not be shared and the need for a web-based system became a major need
- Connectivity within FSM is on the FSM Telecommunication system was a challenge during working hours
- Because FSM-EHDI did not get the system up and running as projected, CDC cut funding by 52%



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# Decision Making

- Select a vendor
  - With EHDI experience
  - Already in production
  - Serving other Pacific Island jurisdiction
- Web based
- Provide data at State and aggregate at National Level
- SILAS was successfully serving American Samoa at this time
- FamilyTrac is based on SILAS technology
- Within CDC grant budget
- Able to deliver within grant year

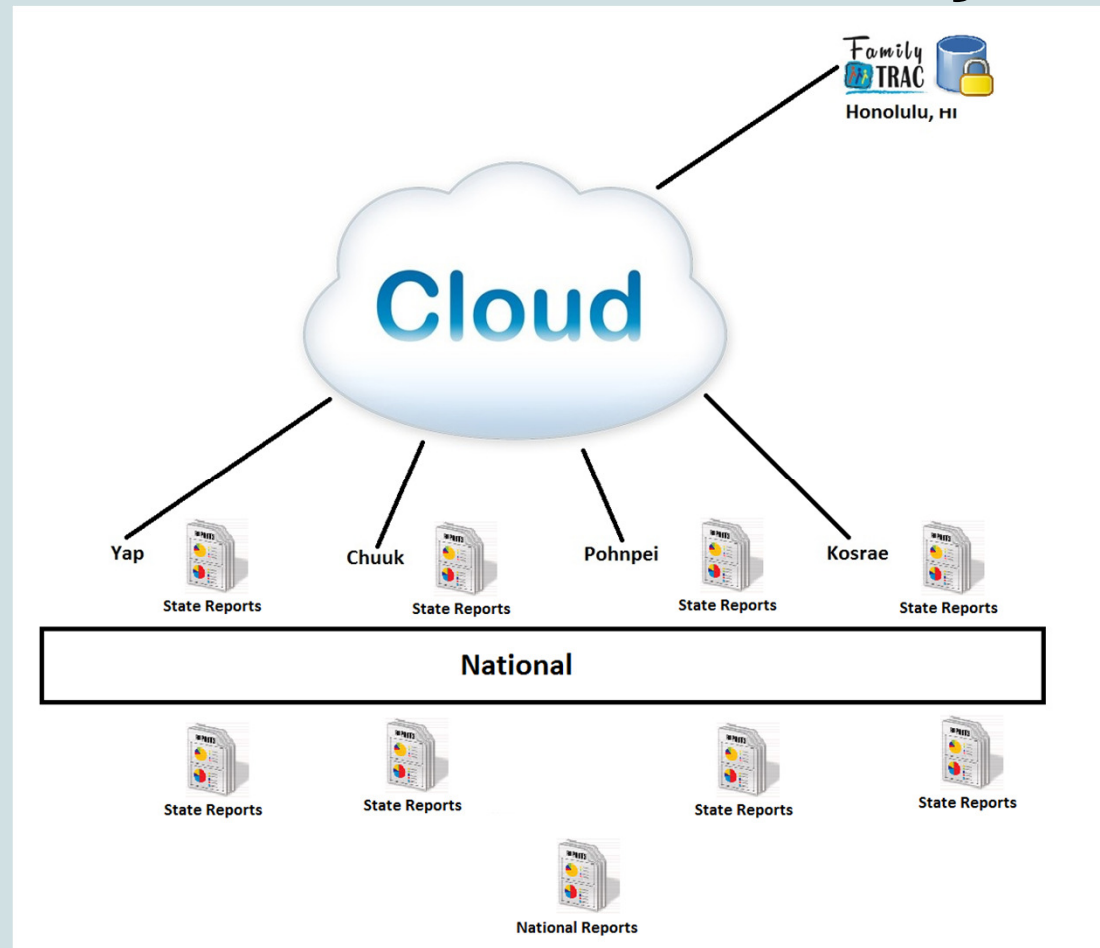


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# What Does HER Look Like today

- 4 States
- 1 National
- State Reports
- National Reports
- HI Hosting for Pacific
- CDC Report
- “push the button”



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# Technological Challenges and Quality Assurance

Chuck Scheier



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# Technological Structure and Capability

- FamilyTrac is a flexible framework that can support any organization that provides services to children and families
- Cloud based
- EHDI model with protocol automations
- Report suite including the CDC annual report
- Can add other programs
  - EI, MCH, Special Education, etc.



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# Cultural Challenges

- Address
- Municipalities and villages (spelling)
- Increase length of name fields
- No child's first name at discharge, more prevalent in Pacific Islands



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# Address

Type: Street

Address 1: 123 South Main Street

Address 2: Apt 3B

City: Raleigh

State: North Carolina

Zip: 27614

Use as Family Address:

US

FSM Health Information System - Yap Address — Reginald Galaxy

Use as Family Address:

Municipality: Gagil

Village: Darchaa

PO Box: 12345

ZIP Code: 96943

Save Cancel

Edit

Municipality: Gagil

Village: Darchaa

Select Cancel

FSM



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# Long Names

## Middle Names:

KA OI MAI KA LANI MAI

AGNES SELMA FITIAINE

Tifaimoana Cathyloraine

Jubilee Faletulafono

## First Names:

Masinuaatoauaaumaialetotomasaaosamoa

Tulitulimatagauoleufiasina

Jayzdevahkahjumallion



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# Technological Challenges

- Infrastructure
- Bandwidth
- Reliability
- FamilyTrac Pacific
- Other performance optimizations on client and server
  - Caching
  - Client side scripting
  - Data access through web api



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# Quality Assurance

- Duplicates: Addressed with addition of configurable unique identifier (HID) by program to framework. Duplicates report. Very few duplicates are being entered today.
- Recent births report to QA timely and accurate screening.



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# Training and Support

Sue Scanlan



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# Introduce the Trainer

- Work with FamilyTrac, EHDI, and Part C programs in American Samoa
- Perform
  - business analysis
  - software testing
  - customer support
  - training
- Based in American Samoa



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# Geographic Challenges of Training

- FSM (1M square miles) as shown earlier
- FamilyTrac and our customers are in multiple locations across the globe
  - FSM - EHDI customer
  - AS - Trainer
  - Guam - Program consultant
  - NC - Software development



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# Cultural Challenges of Training

- Pacific Islanders
  - are a face-to-face culture
  - use much facial expression
  - don't ask when they don't understand
  - strict respect hierarchy
- Language barrier



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# Training and Support Approach

- Tried video and voice over Skype
  - Limited success based on bandwidth
  - At least start out with video for introductions
- Listen carefully for what is said and what is not said
- Checkpoints
- Save and refresh (web allows trainer to see results)
- Lots of hands on exercises and visual handouts
- Immediate use after training is key to retention
- **Follow-up** support provided by email and Skype chat



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# Current Status and Future Outlook

- Program is in the field today
- Much training was not retained due to lack of immediate use
  - However we have caught up using customer support
- Onsite training is scheduled for June



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# Conclusions

- Despite many challenges in FSM, collaborative partnerships have been successful in overcoming those challenges
- The decision-making process demanded that we evaluate what is needed and relevant in data management. So, the current solution does in fact meet those unique needs of the Pacific
- Overcoming linguistic and cultural differences, and geographic distances, the current system is fully functional



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