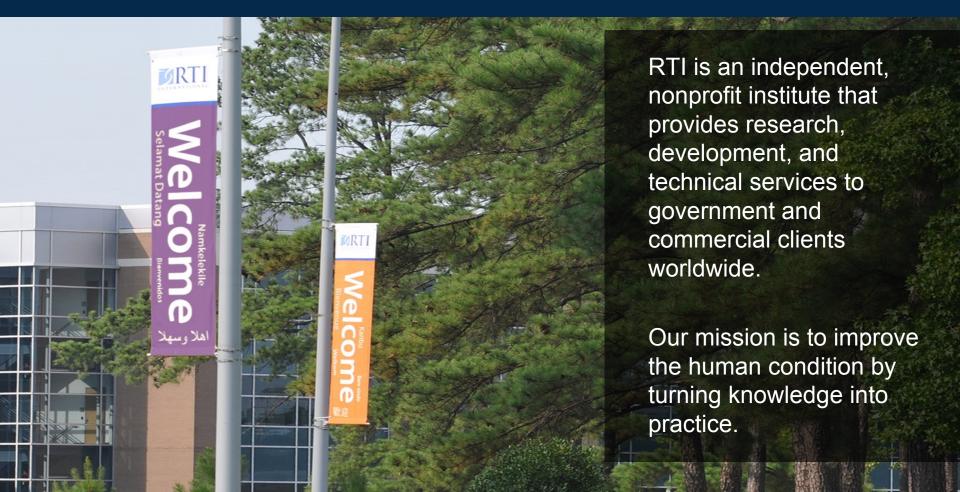


Securing Survey Data on Android Devices

Prepared for FedCASIC 2016

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Who Is RTI International



Agenda

- 1. Introduction/Motivation
- 2. Problem
- 3. Our Approach
- 4. Conclusion

Introduction/Motivation



Why Use Android?

- Superior portability.
- High definition screens.
- Sensors like GPS or camera.
- Long battery life.
- Competitive prices.
- Available worldwide.

Introduction/Motivation

Drawbacks of Android

- Portability = easily stolen.
- Sensors and screens = high value targets.
- Field staff use their new devices inappropriately.
- Employees that go rogue or vanish.



Problem

Concerns

- Surveys generally contain PII.
- Usually have other sensitive information.
- Device/data
 security is critical.



Goals

- Maintain ease of use and features.
- Secure data locally and in transmission.
- Provide remote and timed "kill switch."



Basic Device Security

- Password or PIN on device.
- Different password on the app.
- Turn on device encryption.
- Enable attempt based wipe.

Variable Level Encryption

- Encrypt desired information or pictures and recordings.
- Done locally at time of capture.
- Only decrypted locally when viewed in app.
- Uses powerful 256 bit AES encryption.
- Remove completed cases automatically.

Case ID	Street #	Street		City	State
XX10010013	110	616D918DF78702	0CC836205C7975F9E9	Cary	XX
XX10010015	300	AF6D27C81B91B	53782107AA36D681D22	Cary	XX
XX10010017	304	AF6D27C81B91E			
XX10010025	5421	F22470396D17E	ase ID XX10010013	O/ 27544	
XX10010033	202	52E751630AD19	10 Pond Street, Cary, >	X 2/511	
XX10010037	400	687D99DA7D569	ase ID XX10010015	27544	
XX10010039	212	52E751630AD19	00 Gordon Street, Cary	/, XX 2/511	
YY09010001	124	667811CB2C372	ase ID XX10010017	10/ 07544	
ZZ10010002	102	F5F3954C7B02C	04 Gordon Street, Cary	, XX 2/511	
			ase ID XX10010025		
			421 Cornwall Road, Ca	ry, XX 2751	11
			ase ID XX10010033		
			02 Shirley Drive, Cary,	XX 27511	
			ase ID XX10010037		
			00 Jefferson Drive, Car	y, XX 2751	1

ase ID XX10010039

ase ID YY09010001

ase ID **ZZ10010002**

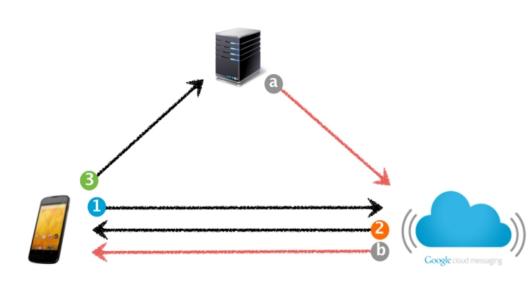
12 Shirley Drive, Cary, XX 27511

24 Example Dr, Mayberry, YY 29378

02 Practice Ln. Mt. Pilot. ZZ 27958

Remote Wiping/Messaging

- Supervisors can send messages, lock devices, and wipe data
- Commands can be sent to individuals or some/all field staff.
- Requires some form of internet connection on the device.



Flow Diagram using Google Cloud Messaging Black - Registration Flow, Red - Message Flow



Protocol Violation Wiping/Messaging

- Can be tied to transmission or other scheduled actions.
- Time interval can be controlled remotely.
- Can escalate: warning message, change of password, eventual device wipe

Conclusion

Android Benefits

- Portability and sensors
- Price and availability

Android Concerns

- Targets for theft
- Contain sensitive data



Our Solution

- Basic device security practices
- On demand local encryption
- Compliance through local timers
- Ability to remotely message or wipe

More Information

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