IoT based implementation in military

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AGENDA

- Introduction
- Literature Survey
- Architecture / block diagram
- Explanation
- Advantages
- Disadvantages
- Real Time Applications
- References

INTRODUCTION

How IoT got into the military activities?

1. Increase in anti-military activities lead to increased need of computer applications in Military Environments. Many nations have failed to track the physical activities responsible for loss of lives irrespective of prior warning or information available with them.

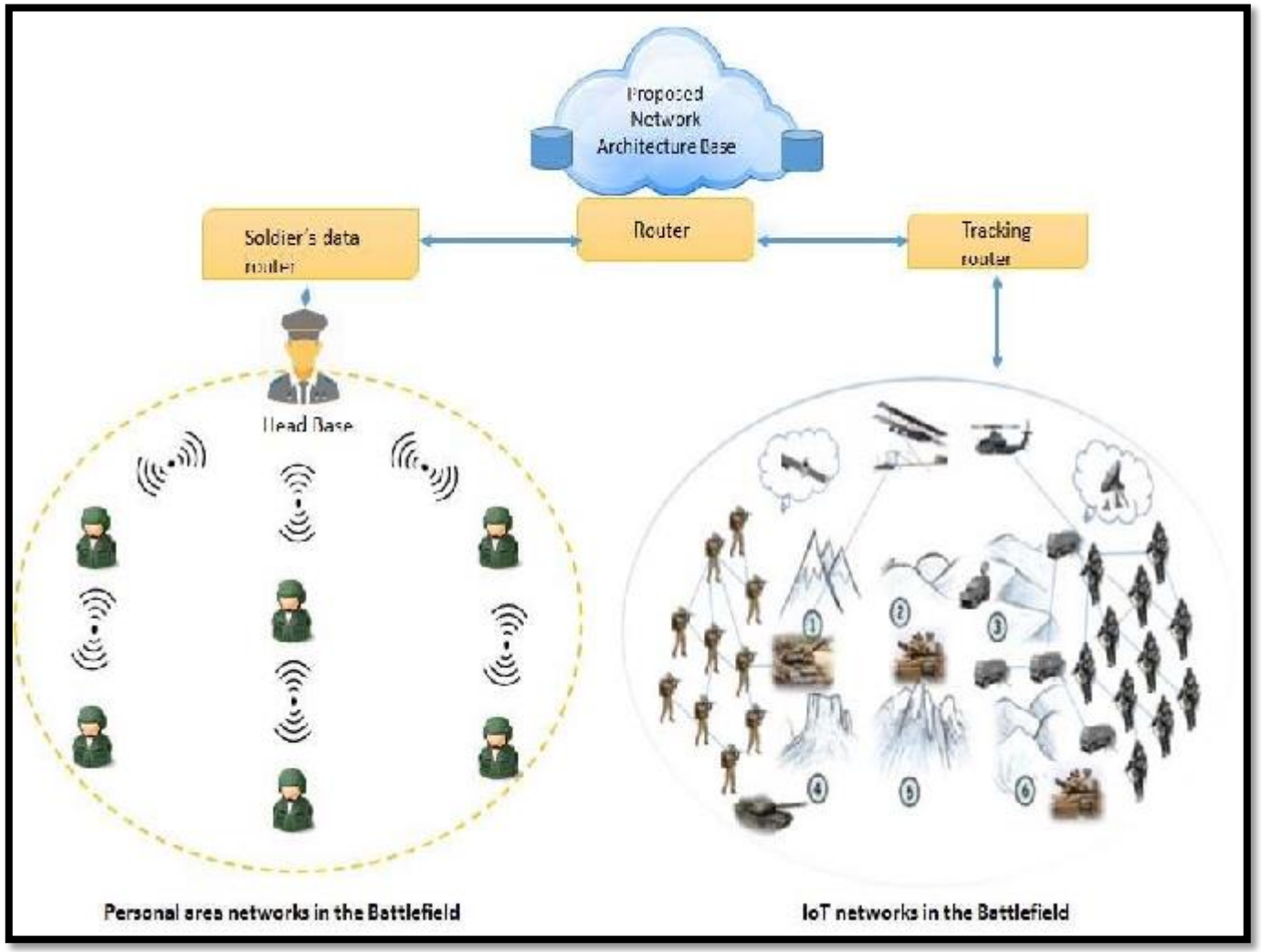
2. Remote movement tracking has become the necessity of Military forces over the course of time. These needs can be fulfilled by wireless communication techniques and IoT can give the solutions to these problems by the means of faster, better and safer way of transferring information with the help of powerful and reliable wireless communication.

3. IoT applications can also be designed to monitor health of soldiers on battlefield or to provide logistic support system. Both these requirements have equal importance as surveillance in battlefield.

LITERATURE SURVEY

Sr.no	Title of paper	Publication	ISBN/ISSN Number	Volume (issue)	Authors
1.	Research on design of military ammunition container monitoring system based on IoT	Prognostics and System Health Management Conference (PHM-Chengdu)	pp. 1-4	-	L. Cao, G. Zheng and Y.Shen
2.	Application of IoT in military operations in a smart city	2017 International Conference on I-SMAC	pp. 1-8	-	F. T. Johnsen et al
3.	Study on application modes of military Internet of Things (MIOT)	IEEE International Conference on Computer Science and Automation Engineering (CSAE), Zhangjiajie	pp. 630-634	-	L. Yushi, J. Fei and Y. Hui

ARCHITECTURE / BLOCKDIAGRAM



EXPLANATION / JUSTIFICATION

1. What is router?

A router is a device that connects two or more packet-switched networks or sub networks.

Tracking router : an edge router to which all the devices on the receiving side are connected

2. How messages are conveyed?

The messages are send from Personal area network in the battlefield to the IoT networks in the Battlefield. Here router is an proposed network architecture base to which router and tracing router are connected.

3. Head base convey the message to the soldiers as well as to the IoT networks in the IoT filed that where to attack and what to do next.

ADVANTAGES

The **Internet of Things** has strong **military** applications

- Improved work safety
- Connecting ships
- Planes
- Tanks
- Drones
- Soldiers and operating bases in a cohesive network that increases situational awareness
- Risk assessment and response time.
- It will also produce a huge amount of data.

DISADVANTAGES

- **Security:** Ask any security expert about the **biggest** headaches of the 21st century and they'll likely bring up **IoT** devices.

- **Regulation**: Another common characteristic of technological innovations is that government regulation often takes a long time to catch up with the current state of technology.
- **Compatibility**: New waves of technology often feature a large stable of competitors jockeying for market share, and IoT is certainly no exception.

- **Bandwidth**: Connectivity is a bigger challenge to the IoT than you might expect. As the size of the IoT market grows exponentially, some experts are concerned that bandwidth-intensive IoT applications such as video streaming will soon struggle for space on the IoT's current server-client model.
- **Customer expectations:** With such strong competition in the IoT market, customers whose expectations aren't met won't hesitate to go elsewhere.

REAL TIME APPLICATIONS

1. **Drone**
2. **Human Performance tracking**
3. **Medical tracking**
4. **Logistic tracking**
5. **Unmanned Systems**
6. **Every platform a sensor**
7. **Intrusion Detection System** : device or software application that monitors a network or systems for malicious activity or policy violations. Any intrusion activity or violation is typically reported either to an administrator or collected centrally using a security information and event management (SIEM) system.
8. **Target Recognition and Autonomous Reconnaissance** : These techniques allow defense forces to gain an in-depth understanding of potential operation areas by analyzing reports, documents, news feeds, and other forms of unstructured information.
9. **Transportation:** By connecting shipping vehicles with sensors to monitor temperature, it can help ensure goods, especially food, arrive in a safe condition. Sensors and smart software can be used to collect data that can help the driver operate the vehicle in a manner that helps save fuel.

REFERENCES

[1.] L. Cao, G. Zheng and Y. Shen, "Research on design of military ammunition container monitoring system based on IoT," 2016 Prognostics and System Health Management Conference (PHM-Chengdu), Chengdu, 2016, pp. 1-4.

[2.] L. Yushi, J. Fei and Y. Hui, "Study on application modes of military Internet of Things (MIOT)," 2012 IEEE International Conference on Computer Science and Automation Engineering (CSAE), Zhangjiajie, 2012, pp. 630-634.

[3.] N. Suri et al., "Analyzing the applicability of Internet of Things to the battlefield environment," 2016 International Conference on Military Communications and Information Systems (ICMCIS), Brussels, 2016, pp. 1-8.

ANY QUERIES?

THANK YOU !