

Daily News Decoding

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Topics	Pages
Bluebugging	1 - 3
Frontier Nagaland	4 - 5
Har Ghar Gangajal Scheme	6 - 7

Bluebugging

Prelims

What is bluebugging, and how is it used to hack Bluetooth-enabled devices?

Several smartphones have their Bluetooth settings on discovery mode, as it is a default setting, making it easy for hackers to access the phones when they are within 10 metres from the device

Abhishek Chatterjee

The story so far:

Cybersecurity experts note that apps that let users connect smartphones or laptops to wireless earplugs can record conversations, and are vulnerable to hacks. Even the most secure smartphones like iPhones are vulnerable to such attacks. Any app with access to Bluetooth can record users' conversations with Siri and audio from the iOS keyboard dictation feature when using AirPods or Beats headsets, some app developers say. Through a process called bluebugging, a hacker can gain unauthorised access to these apps and devices and control them as per their wish.

What is bluebugging?

It is a form of hacking that lets attackers access a device through its discoverable Bluetooth connection. Once a device or phone is bluebugged, a hacker can listen to the calls, read and send messages and steal and modify contacts. It started out as a threat for laptops with Bluetooth capability. Later hackers used the technique to target mobile phones and other devices.

Independent security researcher Martin Herfurt blogged about the threat of bluebugging as early as 2004. He noted that the bug exploited a loophole in

Bluetooth protocol, enabling it to download phone books and call lists from the attacked user's phone.

How does bluebugging hack devices?

Bluebugging attacks work by exploiting Bluetooth-enabled devices. The device's Bluetooth must be in discoverable mode, which is the default setting on most devices. The hacker then tries to pair with the device via Bluetooth. Once a connection is established, hackers can use brute force attacks to bypass authentication. They can install malware in the compromised device to gain unauthorised access to it. Bluebugging can happen whenever a Bluetooth-enabled device is within a 10-metre radius of the hacker. However, according to a blog by VPN service provider NordVPN, hackers can use booster antennas to widen the attack range.

How can one prevent bluebugging?

Turning off Bluetooth and disconnecting paired Bluetooth devices when not in use, updating the device's system software to the latest version, limited use of public Wi-Fi and using VPN as an additional security measure are some of the ways to prevent bluebugging. Shubho Pramanik, senior vice president, Applied Cloud Computing, a Thane based cloud service provider, said to *The Hindu*.

Most devices make Bluetooth

discoverable by default, leaving your devices susceptible to unsolicited connections. So, the first step would be to make your Bluetooth devices undetectable from Bluetooth settings.

This will keep them invisible to hackers, thereby not letting them pair with the device, NordVPN said in the blog.

Users must also watch out for suspicious activities on their devices, NordVPN suggested. "If your phone is suddenly disconnecting and reconnecting calls, or if you notice messages that haven't been sent by you, it could indicate that someone is controlling your device. Reset the device to its factory settings or uninstall any apps you don't recognise."

One should also monitor sudden spikes in data usage. If the amount of data used suddenly spikes beyond reason, someone could be controlling the device as part of a botnet that eats up data, NordVPN said.

Modern anti-virus softwares can also help thwart such attacks. The new-age antivirus softwares are helping users to detect strange and spam-like content by filtering, blocking and consistently reminding people to be alert. Manoj Kumar Shastrula, CEO and Founder, SOCLYO, a cybersecurity company told *The Hindu*.

Which devices are most susceptible to such attacks?

Any Bluetooth-enabled device can be

bluebugged. Wireless earbuds are susceptible to such hacks. Apps that enable users to connect to their TWS (True Wireless Stereo) devices or earbuds can record conversations. The apps of these TWS devices can record conversations. Once hacked, the attacker can make and listen to calls, read and send messages, and modify or steal your contacts, Mr. Pramanik said.

Apple also acknowledged earlier that wireless earbuds can record conversations. "An app may be able to record audio using a pair of connected AirPods," Apple said on its support page while releasing the fixes to the issue.

However, smartphones are more vulnerable to this type of hacking as most of the users leave their Bluetooth on in public places, where hackers may be lurking.

Today, several smartphones have their Bluetooth settings on discovery mode, making it easy for hackers to access the phones when they are within 10 metres from the device. Some earlier models of Bluetooth phones were vulnerable to bluebugging, but have since been corrected. Arindam Mitra, Co-founder, CTO and President of Services, ProcessIT Global, told *The Hindu*. However, devices with short PINs for a password can be easily cracked with brute-force computing and can also be vulnerable to these attacks, Mr. Mitra added.

Context: Cybersecurity experts note that apps that let users connect smartphones or laptops to wireless earplugs can record conversations, and are vulnerable to hacks.

About:

- Bluebugging is a **technique** that **allows skilled hackers** to **access mobile commands** on **Bluetooth-enabled devices** that are in discoverable mode.
- It is similar to **phone eavesdropping**, or **bugging**.
- Because **discoverable mode** is a **default setting**, most **Bluetooth-enabled mobile phones** and **devices** are **automatically vulnerable** to **bluebugging attacks**.
- Once the **connection is established**, the **hacker will use** it to **install a backdoor** on the victim's device.
- **Backdoors** then **exploit multiple security vulnerabilities**, including **remote code execution**, and **elevation of local privileges**, and allow hackers to gain unauthorized access to the victim's device.

Protection Strategy:

- **Turn off your Bluetooth:** There is no need to connect your device to Bluetooth all the time, connect it only when you need it. If you're on your Bluetooth all the time unnecessarily, you need to turn off that in order to protect your device. You can also make your device in non-discoverable mode.
- **Update devices:** Updating your device from time to time is a good practice for mobile safety. Also in the case of hacking and Blue bugging, it is more necessary. Older devices have Bluetooth discoverable by default. Newer mobile phones and systems have corrected this issue.
- **Do not accept pairing requests from unknown contacts:** If you are unknown from a connection, never accept their pairing request. They can even attract you by urgent seeming file or unsolicited contact. With your approval, they get access to all over data and can misuse it.
- **Be aware of suspicious activities:** If you recognize any abnormal activity that seems to be dangerous such as, connecting calls, sending messages even though you are not

doing this, or looking like someone else is controlling it, you need to reset the factory settings and uninstall the dangerous and unwanted applications.

What is Bluetooth?

- Bluetooth is a short-range wireless technology standard that is used for exchanging data between fixed and mobile devices over short distances and building personal area networks (PANs).
- It employs UHF radio waves in the ISM bands, from 2.402 GHz to 2.48 GHz.
- It is mainly used as an alternative to wire connections, to exchange files between nearby portable devices and connect cell phones and music players with wireless headphones.
- A Bluetooth network is called a piconet and a collection of interconnected piconets is called scatternet.
- Piconet is a type of Bluetooth network that contains one primary node called the master node and seven active secondary nodes called slave nodes. Thus, we can say that there is a total of 8 active nodes which are present at a distance of 10 meters.
- Scatternet is formed by using various piconets. A slave that is present in one piconet can act as master or we can say primary in another piconet. This kind of node can receive a message from a master in one piconet and deliver the message to its slave in the other piconet where it is acting as a slave. This type of node is referred to as a bridge node.

Nagaland group to raise its bifurcation bid with Shah

The Eastern Nagaland People's Organisation has decided not to participate in the Hornbill Festival and threatened to boycott the 2023 Assembly election in the State if its demand is not fulfilled

The Hindu Bureau
GUWAHATI

Leaders of a group representing six districts seeking to break away from Nagaland are scheduled to discuss its Statehood demand with Home Minister Amit Shah in New Delhi on December 3.

A spokesperson of the Eastern Nagaland People's Organisation (ENPO) said Mr. Shah has invited a team to discuss the Statehood demand for six of Nagaland's 16 districts.

Six major tribes dominating these districts have been demanding the creation of 'Frontier Nagaland'



Amit Shah

to be free from "decades of neglect".

To skip festival

The ENPO had earlier decided not to participate in the State's flagship Hornbill Festival that starts on December 1. The annual

festival at Kisama near State capital Kohima showcases the culture and tradition of all the ethnic communities of Nagaland.

Nagaland's Chief Secretary, J. Alam, said the government had requested the ENPO and all the associated tribal leaders to reconsider their decision. The government is awaiting a positive response from them, Mr. Alam added.

Launching its Statehood demand in August, the ENPO threatened to boycott the 2023 Assembly election in the State if its demand for the bifurcation of Nagaland was not fulfilled. "If the Centre fails to res-

pond to our appeal, we shall ask all our 20 elected representatives (MLAs) to resign," the spokesperson said.

Nagaland has a total of 60 Assembly seats and 20 of these are in six districts – Kiphire, Longleng, Mon, Noklak, Shamator and Tuensang.

The ruling Nationalist Democratic Progressive Party (NDPP) has 15 of these seats, ally Bharatiya Janata Party (BJP) has four, and one MLA is Independent. The NDPP has 42 MLAs in the State Assembly, the BJP has 12, and the Naga People's Front has four, while two are Independents.

Context: Leaders of a group representing six districts seeking to break away from Nagaland are scheduled to discuss its statehood demand with the Union Home Minister.

About:

- **Eastern Nagaland** comprises six districts – **Tuensang, Mon, Longleng, Kiphire, Noklak** and **Shamator** – which are inhabited by seven Naga tribes: Konyak, Khamniungan, Chang, Sangtam, Tikhir, Phom and Yimkhiung. The six districts have 20 of the 60 Assembly seats in the state.
- These **six tribes** of **Eastern Nagaland** being situated in **Indo-Myanmar border**, devoid of **communication**, were **economically and educationally backward** compared to those Advance tribes of Nagaland.
- Much of the demand for a **new state arises because this region** is significantly more **backward** than the rest of Nagaland.
- A significant reason for the **region's backwardness owes itself to history**. Much of Eastern Nagaland was marked as an **"excluded area"** during the **British Raj** meaning that the **colonial government did not administer it** and contact with the rest of the world was minimal.
- **Unemployment is one of the root causes of social evils and unrest.**

Political Territory:



- In 1945, the **region** was **included under the North East Frontier Agency**, an administrative division established by the British, as the Tuensang Frontier Division.
- In 1957, the **Tuensang Frontier Division was merged with the Naga Hills District** of Assam to form an administrative unit called the Naga Hills Tuensang Area.
- The **Governor of Assam administered the Naga Hills Tuensang Area** under the control of the Centre's ministry of external affairs.
- Though the **Naga Hills Tuensang Area** became the **full-fledged state of Nagaland** in 1963, special provisions were made for the then Tuensang Division, citing its relative backwardness.
- For a decade, it was not represented in the Nagaland Assembly and instead had its own regional council headed by the deputy commissioner. It was only in 1973 that the region entered the Assembly.

Nagaland:

- Nagaland is a **landlocked state** in the northeastern region of India.
- It is **bordered** by the Indian states of **Arunachal Pradesh** to the **north**, **Assam** to the **west**, **Manipur** to the **south** and the **Sagaing Region of Myanmar** to the **east**.
- Its **capital city** is **Kohima** and its **largest city** is **Dimapur**.
- Nagaland became the 16th state of India on 1 December 1963.
- The state has significant resources of **natural minerals**, **petroleum**, and **hydropower** with **agriculture** as the state's most important economic activity, accounting for over 70% of its economy. Other significant activities include **forestry**, **tourism**, **insurance**, **real estate**, **horticulture** and miscellaneous cottage industries.
- The state has experienced insurgency and inter-ethnic conflict since the 1950s, limiting its economic development.

Har Ghar Gangajal Scheme

Prelims & GS Paper - II

Nitish launches 'Har Ghar Gangajal' scheme at Rajgir

The Hindu Bureau

PATNA

Bihar Chief Minister Nitish Kumar on Sunday launched the ambitious 'Har Ghar Gangajal' scheme, under which piped Ganga water will be supplied to every household, at Rajgir in Nalanda district.

In the first phase of the ₹4,000-crore scheme under the government's *Jal, Jivan aur Hariyali* mission, two districts of Nalanda and Gaya will be covered for supply of Ganga water. In the second phase, Ganga water will be reaching the adjoining Nawada district too.

About 7.5 lakh households in Nalanda, Gaya and the town of Bodh Gaya will start getting Ganga water from November 28. It is said to be the first of its kind project in the country to "store, treat and supply floodwaters of the Ganga that the State receives every year during monsoon season, to the districts of Nalanda, Gaya and Nawada".

"The Ganga water which now has reached your household will not only be used for drinking but also for bathing, cooking and everything. The ground water-level too will be maintained through this. The temples of the district and the newly opened Nalanda International University too will be getting the Ganga water under the scheme," the Chief Minister said while launching the project.



CM Nitish Kumar drinks water, supplied through Ganga water scheme, after its inauguration at Rajgir on Sunday. PTI

Amid chants of *Desh ka bhavi pradhan mantri* (The country's future Prime Minister) by the gathered audience, mostly the Janata Dal (United) workers, Mr. Kumar said, "Our government has worked for development of all religious sites: Hindus, Muslims, Jains, Sikhs Buddhists."

He also listed development works done by his government at Rajgir which, he said, has "historical significance".

Airport issue

When someone from audience asked him about an airport at Rajgir, Mr. Kumar in an oblique reference to the Central government said, "*Dilli wala kahan mana?* (The people at Delhi did not comply)." "But, we'll construct our own airport so that people could fly from here to Patna and Gaya, though the (road) distance to Patna for both the places has reduced and takes less hours," Mr. Kumar said.

Context: Bihar CM launched the ambitious "Har Ghar Gangajal Scheme", under which piped Ganga water will be supplied to every household, at Rajgir in the Nalanda district.

About:

- It is a unique and ambitious initiative to provide Ganga water on tap in the parched areas of the state.
- The scheme will help to harvest the excess water of the Ganga during the monsoon season.

- The **water will be stored** in **reservoirs** in **Rajgir** and **Gaya** before being **channeled** to **three treatment-and-purification plants**, from where it will be supplied to the public.

Jal Jeevan Hariyali Scheme:

- The mission offers a great opportunity to citizens of India to **recommit** and **strive** to our **path towards a more sustainable future**, as promised by its logo: **Water, Life and Greenery**, only then will be Prosperity.
- For **targeted** and **time bound delivery** and **monitoring** of **specific outcomes**. The JJH Mission components were carefully designed to **maintain** the **ecological balance**.
- Under this scheme, the farmers of the state will be able to **build ponds** to **get subsidies** from the **state government**. The objective is to **promote tree/sapling plantation**.
- Under this scheme, a subsidy of Rs 75500 will be provided to the farmers of Bihar for the construction of ponds, pokhras and irrigation of fields.
- **Eligibility:**
 - The farmer will get a subsidy for irrigation of only one acre of land.
 - The farmers are divided into two categories. First individual and second collective.
 - The individual category includes farmers who want to irrigate one acre of land.
 - In the collective category there will be those who have less than one acre of land. In this, farmers will also be able to apply in groups.
 - Farmers who want to take advantage of this scheme together in more than 5 hectares of land. They will be given a full subsidy of cost.
- **Functions:**
 - Construction of check dams and other water harvesting structures in small rivers/drains and water storage in the hilly area
 - Creation of new water sources and taking/delivering of water from the surplus river area to water deficit areas
 - Construction of Rain Water Harvesting Structures in the buildings, Creation of nurseries and dense plantation of trees
 - Promoting the usage of Alternative Cropping, Drip Irrigation, Organic Farming and other new techniques
 - Promotion of the usage of solar energy and encouraging conservation of energy.