Government Email Service

Enabling secure communication channel within the Government

Edited by **MOHAN DAS VISWAM**

The importance of Email Service was evident during the ongoing pandemic as it ensured that communication within the Government is not impacted by COVID-19 and continues to operate seamlessly. The service is the largest service of its kind offered by any Government globally.

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Email forms the backbone for all e-Governance initiatives and is the primary mode of communication in the Government both at the Centre and States. The Email policy of the Government was released in February 2015 and in accordance with its mandate, an Email ID will be given to all Government officials which is provided by NIC along with 24x7x365 support. The primary objective of the policy was to ensure that Government data resides on Indian servers and within control of Government of India. The Government Email Service is enhanced through an open-source solution in accordance with the "Policy on adoption of Open-source software for Government of India" by MeitY. This provides strategic control to GoI over the Email Service.

Features of Government Email Service

The Email Service provided by NIC is as per the global standards ensuring security, performance, availability, redundancy, and service continuity in addition to a rich feature set. The prominent features of the current service are Internationalized Domain Name, Support in Multiple Languages, User Persona, Standardized Office Templates etc. The Government Email infrastructure is under constant attack by hackers. Some of the figures relating to threats addressed by the GoI Email Service are shown in Figure 1. The security layers offered in Government Email Service are illustrated in Figure 2.
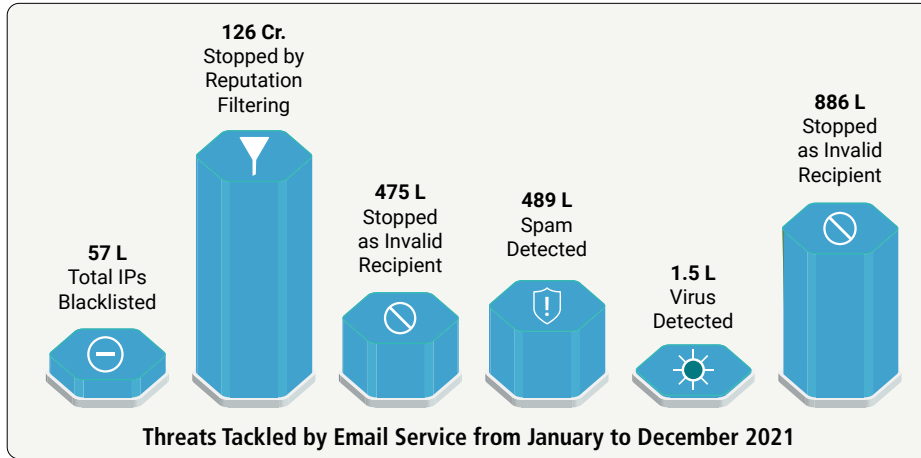
Security Technology Used

The incoming Email traffic passes through Firewalls, IPS & WAF for filtering of malicious contents and then passes on to the authentication

" It is great to see that NIC's email system has near universal coverage. When NIC decided to migrate from proprietary email to open source based inhouse developed system in 2015 there were several who doubted its ability to scale to needs of lakhs of Government users or provide user friendly access as compared to other commercially available email suites. It is heartening to see how the email system has been providing flawless service without interruption. Apart from its availability, I wish to mention unique security features and functionalities which has kept email data secure despite continuous attempts to breach the system. My compliments to those who are working behind the scene to provide an email system which can be rated among the best. "
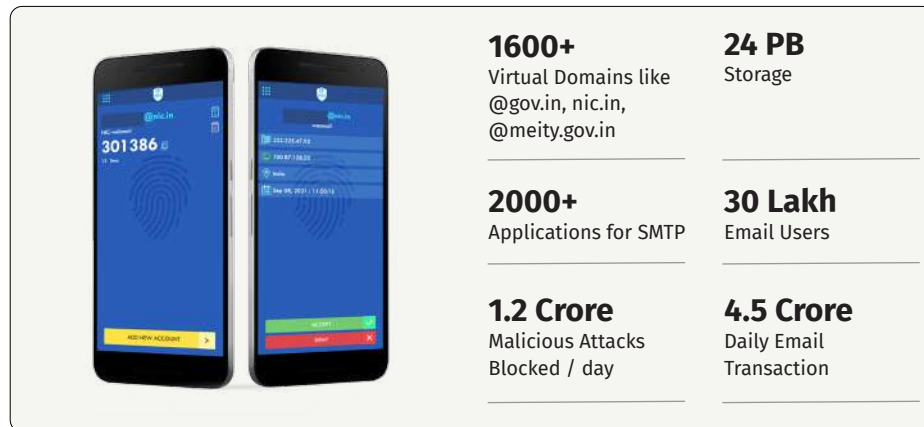
Dr. Ajay Kumar, IAS
Secretary
Ministry of Defense, GoI

Threats Tackled by Email Service from January to December 2021

57 L
Total IPs Blacklisted

126 Cr.
Stopped by Reputation Filtering

475 L
Stopped as Invalid Recipient

489 L
Spam Detected

1.5 L
Virus Detected

886 L
Stopped as Invalid Recipient

Security Features

- Geofencing
- SPF, DKIM, DMARC
- File blocking based on extension type
- Device Mapping
- Hyperlink Alert
- Mail Encryption
- Anti-Phishing, Anti-Spoofing, Anti-Spamming, Anti-Virus
- IP reputation filtering
- User Last Login History
- 2-Factor Authentication

1600+
Virtual Domains like @gov.in, nic.in, @meity.gov.in

24 PB
Storage

2000+
Applications for SMTP

30 Lakh
Email Users

1.2 Crore
Malicious Attacks Blocked / day

4.5 Crore
Daily Email Transaction

▲ Figure 1: NIC Kavach Application

▲ Figure 2: Government Email Service Statistics

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> NIC Email Service has been exceptional in ensuring ease of communication in Government. The platform is easy to use and has features as per global standards. To ensure data security of the Government, I recommend that all officials only use the Government Email Service.

Abhishek Singh, IAS
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layer for 2-Factor authentication using NIC Kavach application. Web Application Firewall (WAF) acts as a filter which protects against the application attacks. Firewalls protect against network attacks by blocking unsolicited and unwanted incoming network traffic. Intrusion Prevention System (IPS) detects and prevents identified threats. IPS continuously monitors the network for possible malicious incidents and captures information about the same. 2-Factor Authentication (2FA), named Kavach with a second level verification in addition to the login-password combination allows only authorized users to access the Email service (Refer Figure 3). Kavach as a framework also includes Geo-fencing that allows access to an ID from the place of physical presence of the user thereby reducing the attack canvas.

Summary

Email continues to be one of the most prolific medium used by hackers to compromise the Government service framework. Hence, it is essential that users adhere and follow strict service security practices and ensure that devices from which they access Emails are patched with latest updates for the Operating System, Anti-Virus and other software stack on the system. Users must also proactively report any suspicious / malicious Emails to incident@nic-cert.nic.in.

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