



Copilot vs Hacker

Power Hour

COPILOT vs. HACKER

Securing SAIMC.co.za Email System



National Members



Disclaimers

- This is not:
 - A security briefing
 - So that you can replace your antivirus software
 - A replacement of a professional security expert
 - A replacement of extreme caution
 - Promote Copilot as the best AI



Purpose

- The purpose of this Power Hour is to
 - Show how Copilot, which comes standard with Microsoft 365, can assist you
 - Show how I had to provide perspective to the AI to provide the best results



Incident

- We received an email from one of our National members which we tried to open.
- It had a name and a bank account. We notified the bank immediately that a scammer was using their bank to deposit funds gained by scamming
- The we went on a search for the weakness(es).



The Problem

- Email spoofing risk due to missing protections
- BIM logo not displaying in inboxes
- DKIM not enabled for saimc.co.za
- DMARC policy misconfigured
- Confusion over MX record setup



Why It Mattered

- Risk of phishing and spoofed emails
- Damage to SAIMC NPC's professional reputation
- Emails landing in spam folders
- Loss of trust from members and partners



Enter Copilot

- Used AI Copilot to troubleshoot complex email issues
- Provided real-time guidance and explanations
- Helped interpret DNS records and email authentication protocols



Step 1 – Diagnosing MX Records

- Reviewed MXToolbox results with Copilot
- Identified multiple MX entries causing confusion
- Confirmed correct Microsoft 365 routing

Step 2 – Fixing SPF

- Validated SPF syntax with Copilot
- Ensured only Microsoft 365 was authorized to send mail
- Removed legacy or incorrect SPF entries



Step 3 – Enabling DKIM

- Copilot guided creation of selector1 and selector2 CNAMEs
- Enabled DKIM in Microsoft 365 Defender
- Verified DKIM signing with saimc.co.za domain



Step 4 – Enforcing DMARC

- Moved from p=none to p=quarantine and then p=reject
- Copilot explained policy impact and syntax
- Confirmed single valid DMARC record with correct reporting

Step 5 – Understanding BIMI

- Learned about SVG Tiny 1.2 and VMC requirements
- Identified why BIMI logo wasn't displaying
- Built correct BIMI TXT record with Copilot's help



Step 6 – Final Validation

- Used MXToolbox to confirm DNS and email security
- Copilot interpreted results: DMARC, DKIM, SPF all passing
- Confirmed readiness for BIMl display



Lessons Learned

- Ask precise, technical questions
- Iterate and validate each step
- Use AI as a real-time technical partner
- Documentation and DNS are critical



How SAIMC Members Can Use Copilot

- Troubleshoot IT and email issues
- Generate technical documentation
- Understand DNS and security protocols
- Create presentations and reports
- Automate repetitive tasks



The Human + AI Advantage

- Copilot accelerates problem-solving
- Human judgment ensures accuracy
- Ideal for technical professionals and engineers
- A powerful tool for digital transformation



Call to Action

- Embrace AI tools like Copilot
- Use AI for governance, engineering, and communication
- Empower members with modern digital skills





THANK YOU

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MX

- An MX (Mail Exchange) record is a type of DNS record that directs a domain's incoming email to the correct mail server. It acts as a digital postal service, identifying which servers are authorized to receive email for a domain and establishing email delivery routes via SMTP. These records are essential for receiving emails.
- **Key Aspects of MX Records:**
 - **Mail Routing:** Without proper MX records, emails sent to a domain will not be received.
 - **Priority System:** MX records use numerical priority values; the lowest number indicates the highest priority (e.g., 10 is preferred over 20).
 - **Redundancy:** Multiple records allow for backup servers, where a lower priority server acts as a failover if the primary is unavailable.
 - **Required Configuration:** MX records are configured in your domain registrar's or DNS provider's management console.
 - **Separation from Website:** Unlike A records, which point to a web server for website traffic, MX records specifically manage email flow.



DMARC

- DMARC (Domain-based Message Authentication, Reporting, and Conformance) is an email security protocol that protects domain owners from phishing, spoofing, and fraud by enabling them to define how email receivers (like Gmail or Outlook) handle messages that fail authentication checks. It builds on [SPF](#) and [DKIM](#) to verify sender legitimacy and provides reports on email flow



DKIM

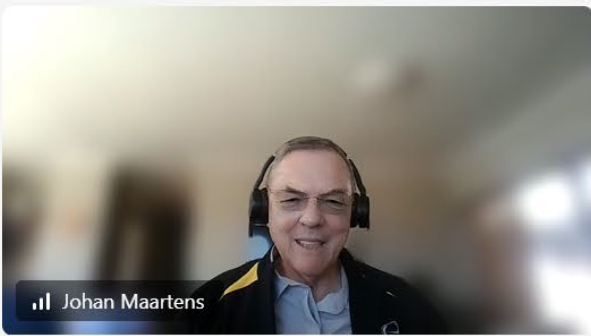
- [DomainKeys Identified Mail](#) (DKIM) is an email authentication method that adds a digital signature to outgoing emails, allowing receiving servers to verify that the message was truly sent from the domain and has not been tampered with in transit. It prevents domain spoofing and helps improve email deliverability by ensuring messages aren't marked as spam



Key Aspects of DKIM

- **Cryptographic Security:** Uses public-key cryptography to sign emails. The sending server uses a private key to create a signature, and the receiving server uses a public key (found in the domain's DNS records) to verify it.
- **Tamper Detection:** If the email body or headers are modified after leaving the sender, the signature check fails, indicating a lack of integrity.
- **Email Trust:** It is a key component in establishing legitimacy alongside SPF and DMARC.
- **How It Works:**
 - **Signing:** The outgoing mail server creates a hash of the message and signs it with a private key.
 - **Publishing:** The domain owner publishes the corresponding public key in their DNS record.
 - **Verification:** The receiving server fetches the public key via DNS and confirms the signature is valid.
- DKIM does not ensure the content of the message is safe, only that it originated from the legitimate domain and was not altered





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Jansie Niehaus

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Terence Fogarty | Carbon Vector

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