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### **Troubleshooting Guide: Specific Issue with gptpat.com (Route 53 and WorkMail)**

#### **Overview**

This guide recaps the troubleshooting process for resolving a DNS configuration issue with the domain gptpat.com after transferring it from GoDaddy to AWS Route 53. The domain worked with Amazon Lightsail but not with Amazon WorkMail due to a nameserver mismatch between the registered domain and the hosted zone.

#### **Problem**

* **Symptoms**: Domain gptpat.com resolved correctly for Lightsail but failed to work with WorkMail.
* **Root Cause**: The nameservers listed under "Registered domains" in Route 53 (ns-1060.awsdns-04.org, etc.) did not match the nameservers in the hosted zone for gptpat.com (ns-318.awsdns-39.com, etc.), breaking DNS authority for WorkMail records.

#### **Steps Taken**

1. **Identified Nameserver Mismatch**:
   * Registered domain nameservers:
     + ns-1060.awsdns-04.org
     + ns-338.awsdns-42.com
     + ns-1662.awsdns-15.co.uk
     + ns-819.awsdns-38.net
   * Hosted zone nameservers:
     + ns-318.awsdns-39.com
     + ns-913.awsdns-50.net
     + ns-2044.awsdns-63.co.uk
     + ns-1366.awsdns-42.org
   * Conclusion: The registered domain wasn’t pointing to the hosted zone managing DNS records.
2. **Updated Nameservers**:
   * In Route 53 "Registered domains," changed the nameservers for gptpat.com to match the hosted zone’s:
     + ns-318.awsdns-39.com
     + ns-913.awsdns-50.net
     + ns-2044.awsdns-63.co.uk
     + ns-1366.awsdns-42.org
   * This aligned the domain’s authority with the hosted zone containing DNS records.
3. **Verified Hosted Zone Records**:
   * Checked the hosted zone for gptpat.com (using ns-318, etc.) for:
     + A/ALIAS record for Lightsail (ensuring it persists post-fix).
     + Missing WorkMail records (MX, TXT, CNAME).
4. **Added WorkMail DNS Records**:
   * In the hosted zone, added:
     + **MX**: 0 gptpat-com.mail.protection.outlook.com
     + **TXT**: v=spf1 include:amazonses.com ~all
     + **CNAME**: autodiscover.gptpat.com → autodiscover.mail.us-east-1.awsapps.com (region-specific).
   * Removed any conflicting GoDaddy-era records if present.
5. **Tested Propagation**:
   * Used nslookup -type=NS gptpat.com to confirm new nameservers propagated.
   * Used nslookup -type=MX gptpat.com to verify WorkMail MX records.
6. **Validated WorkMail**:
   * In WorkMail console, verified gptpat.com domain status changed to "Verified" after DNS updates.
   * Tested email functionality via WorkMail web client.

#### **Resolution**

* Updated the registered domain’s nameservers to match the hosted zone, ensuring Route 53 had full authority over gptpat.com.
* Added WorkMail-specific DNS records and confirmed propagation, resolving the email issue.

#### **Notes**

* Propagation may take 1-48 hours; monitor with nslookup or mxtoolbox.com.
* If Lightsail stops working post-fix, re-add its A/ALIAS record to the hosted zone.