WHITEPAPER

Email Rewrite Services

Power365® Integration Pro
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The Challenge
Organizations, large and small are in a constant state of change. Mergers, acquisitions and divestitures are the driving force behind a lot of this change. This can be compounded when these organizations reside in different Office 365 tenants. Maybe they want to consolidate their tenants or perhaps they just need to integrate with each other. The challenge is a single Accepted (SMTP) Domain can only be registered to a single Office 365 tenant at a time. This presents significant technical obstacles for organizations that require a Unified Shared Domain Space when their users exist in different Office 365 tenants.

The Binary Tree Solution
Binary Tree’s Power365® offers a solution to sharing (Accepted) Domains between different Office 365 tenants. It achieves this with two distinct functions we call Day 1 and Day 2 Email Rewrite Services (ERS). These features grant clients the ability to utilize a single Accepted Domain across Office 365 using a message header rewrite technology.

1. **Day 1 Email Rewrite Services** – Day 1 services allow the client to use the destination email address before the user is moved to the destination Office 365 tenant.

2. **Day 2 Email Rewrite Services** – Day 2 services allow the client to continue the use of their original email address after being moved to the destination Office 365 tenant.

The Email Rewrite Services deliver clients the flexibility to remain in separate Office 365 tenants for the long term as well as the needed breathing room to plan and execute their tenant (domain) consolidation projects.

What to Expect
To help you understand a bit more about our service, we are going to walk you through two typical end-user experiences.

**Day 1 Email Rewrite Services**
My name is Jeremy, I am the chief technology officer for my company, BlueFishResort.com. We recently merged with a larger company, SandyShoreHotels.com.

Once the merger was signed, our external email addresses (Reply Address) must all appear to come from SandyShoreHotels.com even though our users live in an Office 365 tenant that does not own that domain space. We didn’t have time to migrate all our employees before the merger, so we contacted Binary Tree for help.

With Power365 Integration Pro and Day 1 ERS, when I send a message to an external customer, I appear to them as **Jeremy@SandyShoreHotels.com**. When someone replies to me, thanks to
Power365 Integration automation, we have a reply path that delivers the message back to my mailbox at Jeremy@BlueFishResort.com.

Thanks to the Email Rewrite Services in Power365 Integration Pro, we can plan our next steps for the technology merger. We have the time to plan and decide if we want to consolidate our multiple tenants into one or keep them separate for the long term. Power365 really provided the edge we needed to get the job done quickly without causing interruptions to our business or our end-users.

**Day 2 Email Rewrite Services**

Hi, I’m Anna Ramirez, I’ve worked at HiddenValleyHospital.com for 10 years as their director of patient outreach. I’m very excited because today we launched our newest healthcare facility called HiddenValleyClinic.com. We are a brand new business but we will remain under the Hidden Valley Hospital’s brand name. As part of this new position, my team was moved to a new Office 365 tenant for HiddenValleyClinic.com.

When I moved, I asked our IT department if I will be able to keep my existing email address, Anna.R@HiddenValleyHospital.com. They said yes, my current address will continue to work. I will continue to receive email from that address and I will send email to external users from that address. However, internally I will be known as Anna.R@HiddenValleyClinics.com to allow for collaboration between the two organizations. I now know confidently that I will be able to communicate with existing and new patients, all under our known and trusted health care brand.

This is the power behind Power365 Integration Pro with Day 2 ERS, seamless integration without downtime or interruptions.

**How Does it Work?**

Now that you have some understanding of what to expect from the end-user’s perspective, let’s talk about how your administrators will manage ERS eligibility, support ERS mail flow and ensure proper security and validation is being taken when ERS is involved.

**Adding Users to ERS Groups**

Once you have deployed your Power365 Integration Pro Project with Email Rewrite Services, a user can be made eligible by adding them to the membership of a cloud only group that Power365 creates in the source and destination tenants during deployment.

1. **Send As New Domain:** From the source tenant your administrator would add mailbox users to the Day 1 group if the user has not been migrated to the destination tenant but needs to appear as if they have.
2. **Send As Original Domain:** From the source tenant your administrator would add mailbox users to the Day 2 group if the user has been migrated to the destination tenant but needs to appear as if they have not moved.

**How will Mail Flow with ERS?**

**Day 1** – Jeremy’s User Mailbox resides in his existing home tenant, BlueFishResort.com.

1. **Jeremy Sends a Message Out to an External Domain.**

2. Jeremy is a member of the Day 1 ERS Group in the Source tenant. If you recall, adding a user to this group makes them eligible for ERS.

3. Jeremy’s message is securely (TLS) routed to the ERS Relay servers due to Transport Rules and Connectors automatically configured during the Power365 Project deployment.

4. Email Rewrite Services acts upon the message header to transform the Reply Address from, Jeremy@BlueFishResort.com to Jeremy@SandyShoreHotels.com and the DKIM-enabled outbound relay server adds a digital signature.

5. The message is then securely routed back to the tenant for final delivery to the external Domain.

6. When the message is received by the external recipient, the reply address will display as, Jeremy@SandyShoreHotels.com.

7. When the external recipient replies to the message, the reply address will be Jeremy@SandyShoreHotels.com.

8. When the external recipient sends the reply message it will be routed to the destination tenant that owns the domain, SandyShoreHotels.com.

9. When the message is received by SandyShoreHotels.com it will be rerouted securely (TLS) to the ERS Relay servers due to Transport Rules and Connectors automatically configured during the Power365 Project deployment. This occurs because Jeremy is a member of the corresponding ERS Group located in the target tenant. This group is automatically managed by Power365.

10. The Email Rewrite Services acts upon the message header to transform the Reply Address from, Jeremy@SandyShoreHotels.com back to Jeremy@BlueFishResort.com and the DKIM-enabled outbound relay server adds a digital signature.

11. The message is now deposited back to the tenant for final routing to BlueFishResorts.com. Forwarders are setup by Power365 when you prepare a user for Integration.
12. The message is routed back to the tenant through that forwarder for final delivery to the user’s mailbox at Jeremy@BlueFishResort.com.

13. When Jeremy opens the message, the To: field will display Jeremy@BlueFishResort.com, not Jeremy@SandyShoreHotels.com that the external recipient replied to.

14. If Jeremy sends a message to an internal user at BlueFishResort.com, no transformation occurs. The message is handled as it normally would be.

15. If Jeremy sends a message to a user at SandyShoreHotels.com, no transformation will occur. The message is handled as it normally would be to permit full coexistence between the source and destination tenants, including Calendar Availability and Global Address List (GAL) visibility.

Day 2 – Anna’s User Mailbox has been migrated to a destination tenant, HiddenValleyClinics.com. Anna’s new primary reply address is Anna.R@HiddenValleyClinics.com.

1. Anna Sends a Message Out to an External Domain.

2. Anna is a member of the Day 2 ERS Group in the Source tenant. If you recall, adding a user to this group makes them eligible for ERS.

3. Anna’s message is securely (TLS) routed to the ERS Relay servers due to Transport Rules and Connectors automatically configured during the Power365 Project deployment.

16. The Email Rewrite Services acts upon the message header to transform the Reply Address from, Anna.R@HiddenValleyClinics.com to Anna.R@HiddenValleyHospital.com and the DKIM-enabled outbound relay server adds a digital signature.

4. The message is securely routed back to the tenant for final delivery to the external Domain.

5. When the message is received by the external recipient, the reply address will display as, Anna.R@HiddenValleyHospital.com.

6. When the external recipient replies to the message, the reply address will be Anna.R@HiddenValleyHospital.com.

7. When the external recipient sends the reply message, it will be routed to the tenant that owns the domain, HiddenValleyHospital.com.

8. When the message is received by HiddenValleyHospital.com, it will be rerouted securely (TLS) to the ERS Relay servers due to Transport Rules and Connectors automatically configured during the Power365 Project deployment. This is because Anna is a member
of the corresponding ERS Group located in the home tenant. This group is automatically managed by Power365.

9. The Email Rewrite Services acts upon the message header to transform the Reply Address from, Anna.R@HiddenValleyHospital.com back to Anna.R@HiddenValleyClinics.com and the DKIM-enabled outbound relay server adds a digital signature.

10. The message is now deposited back to the tenant for final routing to HiddenValleyClinics.com. Forwarders are setup by Power365 when you cutover a user during the final migration.

11. The message is routed back to the tenant through that forwarder for final delivery to the user’s mailbox at Anna.R@HiddenValleyClinics.com.

12. When Anna opens the message, the To: field will display Anna.R@HiddenValleyClinics.com, not Anna.R@HiddenValleyHospital.com that the external recipient replied to.

13. If Anna sends a message to an internal user at HiddenValleyClinics.com, no address transformation occurs. The message is handled as it normally would be.

14. If Anna sends a message to a user at HiddenValleyHospital.com, no message header transformation will occur. The message is handled as it normally would be to permit full coexistence between the source and destination tenants, including Calendar Availability and GAL visibility.

**Keeping it Secure**

Binary Tree is committed to delivering secure products and solutions. Power365 was designed every step of the way with security as a core requirement.

**End-to-End Encryption**

That includes end-to-end encryption for the Email Rewrite Service – All messages that traverse the Power365 Email Rewrite Service are encrypted throughout the process. This includes:

- Accepting messages from Office 365 only through TLS-encrypted interfaces
- Temporarily storing objects using message-level encryption, with each message using a unique, randomly-generated encryption key that is only held in memory
- Performing the address rewrite functionality in encrypted memory space
- Delivering rewritten messages back to Office 365 only through TLS-encrypted interfaces for delivery to their destination mail system
Email Signatures (DKIM)

Email headers that have been rewritten by the Power365 Email Rewrite service (ERS) have a digital signature generated from the stored public and private keys configured during deployment of the Power365 Project. Recipient mail systems of rewritten email messages will verify the DKIM (Domain Keys Identified Mail) signature by retrieving the DKIM public key from DNS. DKIM creates a domain-level authentication framework for email by using public-key technology and DNS records to prove the source and content of a message. Using DKIM for verification of the integrity of email and authenticity of its origin eliminates any possible rejections due to the header rewrite process.

Sender Policy Framework (SPF)

Where DKIM validates the integrity of email and authenticity of its origin, SPF validates who is relaying the email. With ERS Relay servers being added into your domain’s routing path when sending to external domains, it is essential your own SPF DNS TXT records be updated to include the Power365 SPF domain record. By doing so, it will ensure no external domains reject your message due to an SPF hard failure.

To find out more on Power365’s external certifications and design principles, download a copy of our Power365 Security Tech Brief from our website.
About Binary Tree

Binary Tree is a Microsoft Gold Partner for messaging, cloud productivity and application development and is dedicated to and focused on enterprise transformations to Microsoft platforms. Since 1993, Binary Tree has transformed more than 8,000 global clients and 42 million users, including 7.5 million users to Office 365. The company is a globally preferred vendor for Office 365. Its headquarters is located outside of New York City with global offices in France, Germany, Singapore, Sweden and the U.K. Its award-winning software and services help companies modernize email, directories and applications by moving and integrating them to the Microsoft cloud. The company’s business-first approach helps plan, move and manage the transformation process from end to end so that clients can stay focused on their core businesses. Binary Tree’s experts deliver low-risk, successful IT transformations. Visit www.binarytree.com for more information.

Binary Tree Social Media Resources

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