

# Standard Operating Procedure: Azure Tenant Invoice Investigation

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<b>Author:</b>	Jeremy Smith
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## 1.0 Purpose

Provide a standardized procedure for investigating Azure invoice charges, identifying the associated tenant, and determining which resources are generating costs.

## 2.0 Scope

This procedure applies to ObaraConnect technicians investigating Azure billing charges for managed tenants. It covers invoice analysis, tenant identification, resource enumeration, and cost attribution.

## 3.0 Definitions

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Term	Definition
<b>Tenant ID</b>	Unique GUID identifying an Azure AD tenant
<b>Subscription ID</b>	Unique GUID identifying an Azure subscription within a tenant
<b>Billing Profile</b>	The account holder name associated with billing
<b>Resource Group</b>	Logical container for Azure resources
<b>Service Category</b>	Azure billing category (Compute, Storage, Networking, etc.)

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## 4.0 Roles & Responsibilities

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Role	Responsibility
<b>Technician</b>	Perform invoice investigation and document findings
<b>Account Manager</b>	Review cost optimization recommendations
<b>Client Contact</b>	Approve any resource changes

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## 5.0 Prerequisites

- Azure CLI installed locally or access to Azure Cloud Shell
  - Administrative access to the Azure tenant
  - Copy of the Azure invoice (PDF or portal access)
  - Access to Azure portal: <https://portal.azure.com>
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## 6.0 Procedure

### 6.1 Extract Invoice Information

1. Obtain the Azure invoice (PDF or from billing portal)
2. Locate the following key information:

Field	Location on Invoice
Invoice Number	Invoice Summary section
Billing Period	Below Invoice Summary
Total Amount	Invoice Summary
Billing Profile	Account Information section
<b>Primary Tenant ID</b>	Account Information section (Page 2+)
Subscription ID	Details by Product section

3. Record the **Primary Tenant ID** - this identifies which Azure tenant to investigate

#### Example Invoice Fields:

Invoice Number: G133682474  
Billing Period: 12/01/2025 - 12/31/2025  
Total Amount: USD 177.68  
Primary Tenant ID: ad6cfe8e-bf9d-4bb0-bfd7-05058c2c69dd

### 6.2 Identify Tenant and Subscription

1. Match the Tenant ID to known tenants:

Tenant Name	Tenant ID
OberaConnect	ad6cfe8e-bf9d-4bb0-bfd7-05058c2c69dd
SetcoServices	7cf9e47b-84ff-4248-914f-8d8c70947e3b

2. If tenant is unknown, check the billing portal link in the invoice:
  - `portal.azure.com` = Standard Azure subscription
  - `admin.microsoft.com` = Azure tied to M365 billing

### 6.3 Authenticate to Azure CLI

1. Open terminal and authenticate to the specific tenant:

```
az login --tenant <TENANT_ID>
```

2. If browser doesn't open (WSL/headless), use device code:

```
az login --tenant <TENANT_ID> --use-device-code
```

3. Verify authentication and subscription:

```
az account show
```

#### Expected Output:

```
{
  "name": "Azure subscription 1",
  "id": "f64eae77-b917-4083-ae4e-f25dce921fdf",
  "tenantId": "ad6cfe8e-bf9d-4bb0-bfd7-05058c2c69dd",
  "state": "Enabled"
}
```

## 6.4 Enumerate All Resources

1. List all resources in the subscription:

```
az resource list --output table
```

2. Group resources by type for analysis:

```
az resource list --query "[].{Name:name, Type:type, RG:resourceGroup, Location:location}" --output table
```

## 6.5 Check Virtual Machine Status

VMs are typically the largest cost driver. Check their status:

1. List all VMs with power state:

```
az vm list -d --output table
```

2. Get details on a specific VM:

```
az vm show -g <RESOURCE_GROUP> -n <VM_NAME> \
--query "{Size:hardwareProfile.vmSize, OS:storageProfile.osDisk.osType, DiskSizeGB:storageProfile.osDisk.sizeInGB}" --output table
```

**Key Fields:** - **PowerState:** VM **running** = incurring charges, VM **deallocated** = no compute charges - **Size:** VM SKU determines hourly cost (e.g., Standard\_E2ads\_v6) - **PublicIps:** Static IPs incur networking charges

## 6.6 Map Resources to Invoice Categories

Cross-reference discovered resources with invoice line items:

Invoice Category	Azure Resource Types
<b>Compute</b>	Virtual Machines, App Services, Functions, Container Instances
<b>Storage</b>	Storage Accounts, Managed Disks, Backup Vaults
<b>Networking</b>	Public IPs, VPN Gateways, Load Balancers, Bandwidth/Egress, Application Gateways
<b>Data Services</b>	SQL Databases, Cosmos DB, Redis Cache
<b>Management</b>	Log Analytics, Network Watcher, Recovery Services

## 6.7 Detailed Cost Analysis (Portal)

For granular cost breakdown:

1. Navigate to **Azure Portal > Cost Management + Billing**
2. Select the subscription
3. Click **Cost analysis**
4. Set date range to match invoice billing period
5. Group by:
  - **Resource** - See cost per individual resource
  - **Service name** - See cost by service category
  - **Resource group** - See cost by logical grouping

## 6.8 Common Cost Drivers

Symptom	Likely Cause	Resolution
High Compute costs	VMs running 24/7	Implement auto-shutdown schedules
High Networking costs	VPN Gateway, Public IPs, egress	Review bandwidth usage, consolidate IPs

Symptom	Likely Cause	Resolution
Unexpected Storage costs	Backup retention, orphaned disks	Clean up unattached disks, adjust retention
Growing costs month-over-month	Resource sprawl	Implement tagging and resource governance

## 7.0 Verification & Quality Checks

- ☐ Tenant ID from invoice matches authenticated tenant
- ☐ All resources are accounted for
- ☐ VM power states are documented
- ☐ Cost categories map to discovered resources
- ☐ Findings documented for client communication

## 8.0 Troubleshooting

Issue	Resolution
<code>az login</code> fails with “Application not found”	Azure CLI service principal not in tenant. Run in Cloud Shell: <code>az rest --method POST --url "https://graph.microsoft.com/v1.0/servicePrincipals" --body '{"appId": "04b07795-8ddb-461a-bbee-02f9e1bf7b46"}'</code>
Cannot determine Tenant ID from invoice	Check Account Information on page 2-3 of invoice PDF, or log into billing portal
VM shows “deallocated” but charges persist	Check for Premium disks (charged even when VM stopped) and static Public IPs
Networking charges unexpectedly high	Check for VPN Gateway (\$100+/month), Application Gateway, or high egress bandwidth
<code>az resource list</code> returns empty	Verify correct subscription is selected: <code>az account set --subscription &lt;SUBSCRIPTION_ID&gt;</code>

## 9.0 Related Documents

Document	Description
SOP-AZ-001	Azure VM Administration
SOP-AZ-002	Azure VPN SonicWall Site-to-Site
Azure Pricing Calculator	Estimate resource costs
Azure Cost Management	Microsoft documentation

## 10.0 Revision History

Version	Date	Author	Change Description
1.0	2026-01-12	Jeremy Smith	Initial document creation

## 11.0 Approval

Name	Role	Signature	Date
	Technical Lead		
	Operations Manager		