focus dataset

All Major Providers Support FOCUS
AWS, Azure, and GCP have all committed to supporting FOCUS 1.0+ exports. AWS offers FOCUS 1.0 (preview) via Data Exports, Azure provides FOCUS cost details files, and GCP supports FOCUS format in billing exports.ahead+3

How to Integrate FOCUS for AI Service Cost Tracking

Enable FOCUS Exports from Each Provider

AWS

- Navigate to **AWS Billing and Cost Management → Data Exports**
- Create a new export using the **FOCUS 1.0 schema** (currently in preview)aws.amazon
- Configure delivery to your S3 bucket (similar to your existing CUR setup)
- FOCUS data includes 5 AWS-specific columns plus standardized FOCUS columnsaws.amazon

Azure

- Access **Cost Management + Billing → Exports**
- Create a new export with **FOCUS cost and usage details** schemalearn.microsoft
- Configure delivery to Azure Storage
- Azure's FOCUS export includes all standard FOCUS columns mapped from their native cost detailsmicrosoft+1

GCP

- Set up **BigQuery Billing Export** with FOCUS format support
- GCP provides FOCUS-formatted billing data through BigQuery datasets
- Configure export to a dedicated BigQuery dataset or Cloud Storage bucket

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AWS: Access FOCUS Exports via S3 with Read-Only IAM

How FOCUS Exports Work in AWS

- AWS exports FOCUS 1.0 data to an **S3 bucket** that the customer configures (similar to CUR reports)aws.amazon+2
- The FOCUS export files are stored as Parquet or CSV files in the designated S3 bucket

- Your CloudTuner IAM user/role only needs **read permissions** on that S3 bucket—no write access required

Required IAM Permissions (Read-Only)

You need these specific S3 permissions to read FOCUS exports:

json

```
{ "Version": "2012-10-17", "Statement": [ { "Effect": "Allow", "Action": [ "s3:GetObject", "s3:ListBucket", "s3:GetBucketLocation" ], "Resource": [ "arn:aws:s3:::customer-focus-bucket", "arn:aws:s3:::customer-focus-bucket/*" ] } ] }
```

Optional: Data Exports API Read Access

If you want to programmatically discover FOCUS export configurations (useful for automation), add these permissions:aws.amazon

json

```
{ "Effect": "Allow", "Action": [ "bcm-data-exports:GetExport", "bcm-data-exports:ListExports", "bcm-data-exports:GetTable", "bcm-data-exports:ListTables" ], "Resource": "*" }
```

Key Points:

- The AWS-managed policy `AmazonS3ReadOnlyAccess` provides broad S3 read access, but for least-privilege security, scope it to the specific FOCUS export bucketaws.amazon
- No write permissions needed—you're just reading exported files
- Access Key + Secret Key authentication works exactly as with CURaws.amazon+1

Azure: Access FOCUS Exports via Storage Account with Read-Only Permissions

How FOCUS Exports Work in Azure

- Azure exports FOCUS cost details to an **Azure Storage Account** (blob storage)nops+2
- Files are exported to a container path like `nops/billing` or a custom directory the customer specifiesnops+1
- Your CloudTuner service principal only needs **read permissions** on that storage account container

Required Azure RBAC Roles (Read-Only)

Assign one of these built-in roles to your CloudTuner service principal at the storage account or container scope:

1. **Storage Blob Data Reader** (recommended, least privilege)
   - Allows reading blobs and blob metadata
   - No write access
2. **Reader** (broader, but still read-only)
   - Allows viewing all resources but not modifying them

Authentication Methods

Azure supports multiple read-only authentication approaches:

Service Principal with Client ID/Secret

- Similar to AWS access key/secret key model
- Assign `Storage Blob Data Reader` role to the service principal
- Use Azure SDK to authenticate and read blob data

Shared Access Signature (SAS) Token (Read-Only)

- Customer generates a SAS token with **only Read and List permissions**learn.microsoft
- Time-limited, scoped to specific container
- No permanent credentials needed

Managed Identity (if running in Azure)

- If CloudTuner runs in Azure, use managed identity with Storage Blob Data Reader role

Key Points:

- No write permissions required—just read access to blob storageazure+1
- If the storage account has a firewall enabled, ensure "Allow trusted Azure services" is enabled, or add CloudTuner's IP to the allowlistcloudbolt+1
- FOCUS exports are in Parquet/CSV format, stored in the configured container pathlearn.microsoft

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GCP: Access FOCUS Billing Exports via BigQuery with Read-Only IAM

How FOCUS Exports Work in GCP

- GCP exports billing data (including FOCUS format) to **BigQuery datasets**techcommunity.microsoft+3
- Alternatively, you can export from BigQuery to **Cloud Storage buckets** as CSV/Parquet filestechcommunity.microsoft

- Your CloudTuner service account only needs **read permissions** on the BigQuery dataset or Cloud Storage bucket

Required GCP IAM Roles (Read-Only)

For BigQuery Access:

Assign these roles to your CloudTuner service account at the project or dataset level:

1. **BigQuery Data Viewer** (`roles/bigquery.dataViewer`)
   - Read table data and metadata
   - No write access
2. **BigQuery Job User** (`roles/bigquery.jobUser`)
   - Required to run queries against the dataset

For Cloud Storage Access (if exporting BigQuery → GCS):

1. **Storage Object Viewer** (`roles/storage.objectViewer`)
   - Read-only access to bucket objects
   - No write permissions

Authentication Methods

Service Account Key (similar to AWS access key/secret)

- Create a service account, download JSON key
- Assign read-only roles listed above
- Use GCP client libraries to authenticate with the key

Workload Identity (if running in GCP)

- Use workload identity federation for keyless authentication
- Still requires read-only IAM roles

Key Points:

- No write permissions needed—just query and read accesscloud.google+2
- BigQuery billing exports run automatically; you just query the datasetcloud.google
- For FOCUS format specifically, customers can create a BigQuery view that transforms detailed billing data into FOCUS schematechcommunity.microsoft

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Implementation Approach for CloudTuner.ai

Current State (CUR/Native Billing Access)

You're already fetching:

- **AWS CUR** from S3 buckets (read-only)
- **Azure Cost Details** from Storage Accounts (read-only)
- **GCP Billing Exports** from BigQuery (read-only)

Extended State (Adding FOCUS Support)

AWS:

1. Customer creates FOCUS 1.0 export in AWS Billing Console → outputs to S3
2. Customer provides CloudTuner with:
   - S3 bucket name/path for FOCUS exports
   - IAM access key/secret with `s3:GetObject` and `s3:ListBucket` permissions
3. CloudTuner reads FOCUS Parquet/CSV files from S3 using existing S3 client code

Azure:

1. Customer creates FOCUS export in Cost Management → outputs to Storage Account
2. Customer provides CloudTuner with:
   - Storage account name, container name, directory path
   - Service principal credentials OR SAS token with read-only permissions
3. CloudTuner reads FOCUS files from Azure Blob Storage using Azure SDK

GCP:

1. Customer enables detailed billing export to BigQuery
2. Customer creates BigQuery FOCUS view (or uses standard billing export)
3. Customer provides CloudTuner with:
   - Project ID, dataset name, table/view name
   - Service account JSON key with `bigquery.dataViewer` + `bigquery.jobUser` roles
4. CloudTuner queries BigQuery FOCUS dataset using BigQuery client library