AWS DATA PROCESSING INFRASTRUCTURE 2C

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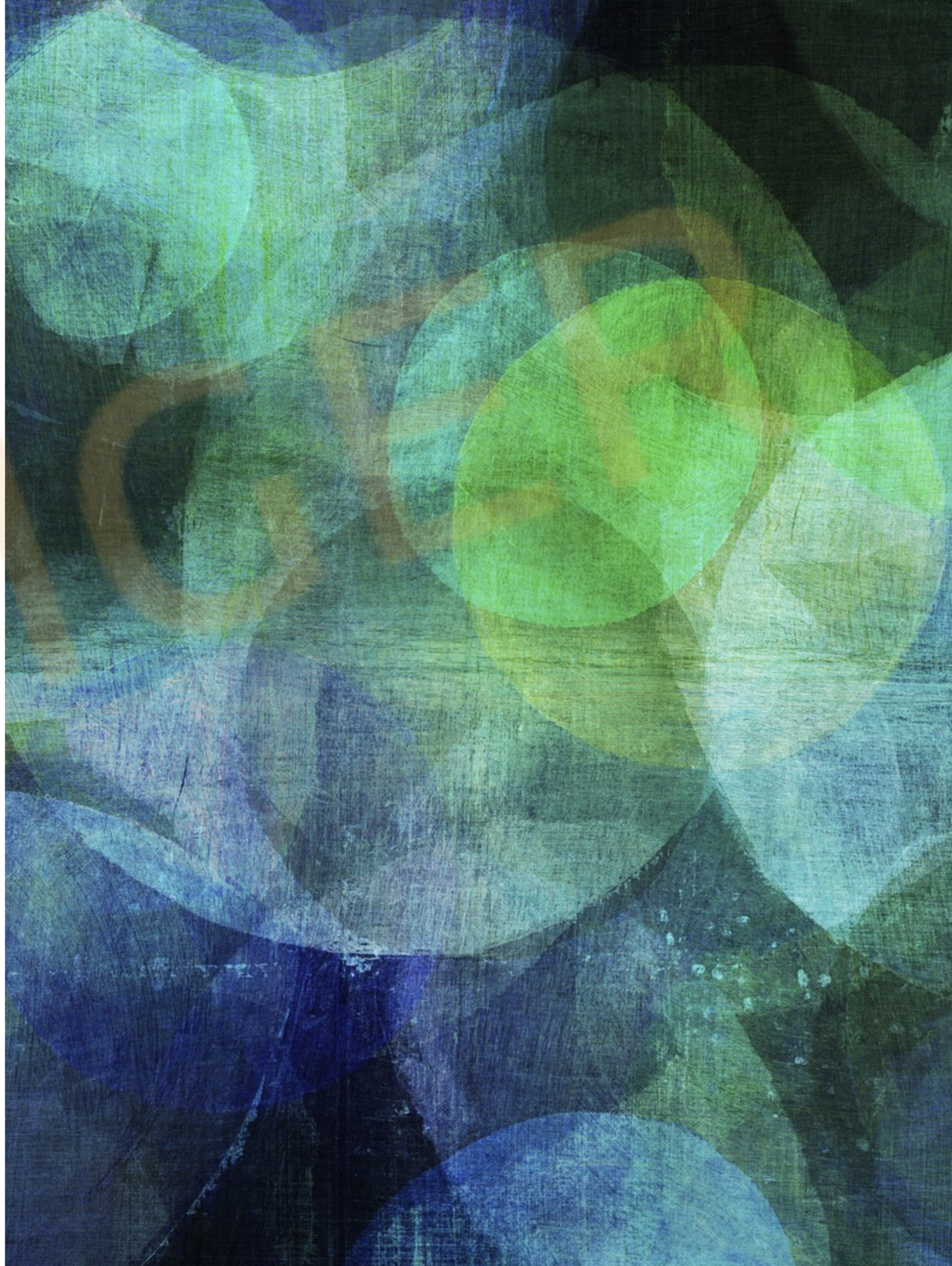

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OUTLINE

- IAM Policy to limit a user to terminate his/her own instances
- Cross-account bucket copy ACL
- raw2aws.py performance analysis
- Security group rules evaluation

EC2 PROFILE TO PREVENT USER TO STOP OTHER INSTANCES

```
{
    {
        "Effect": "Allow",
        "Action": [
            "ec2:StopInstances",
            "ec2:RebootInstances",
            "ec2:TerminateInstances"
        ],
        "Resource": [
            "arn:aws:ec2:us-west-2:*:instance/*"
        ],
        "Condition": {
            "StringEquals": {
                "ec2:ResourceTag/User": "${aws:username}"
            }
        }
    }
}
```

```
{
    {
        "Effect": "Deny",
        "Action": [
            "ec2:StopInstances",
            "ec2:RebootInstances",
            "ec2:TerminateInstances"
        ],
        "Resource": [
            "arn:aws:ec2:us-west-2:*:instance/*"
        ],
        "Condition": {
            "StringNotEquals": {
                "ec2:ResourceTag/User": "${aws:username}"
            }
        }
    }
}
```

CROSS-ACCOUNT COPY

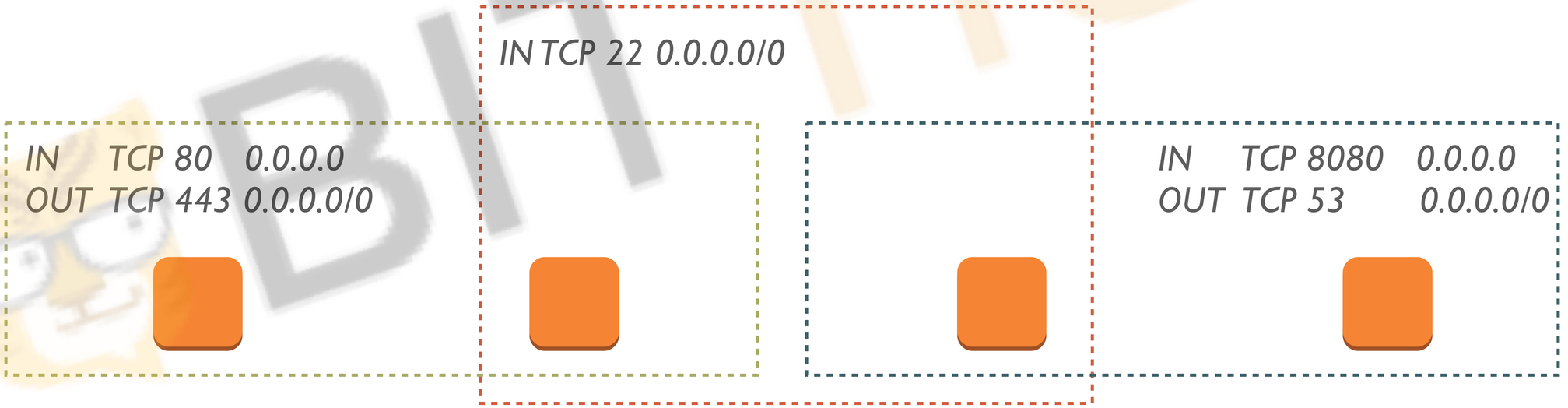
- Access Control List
  - To do a cross-account copy, not only copying, but also grant access to the copied objects
    - http://docs.aws.amazon.com/AmazonS3/latest/dev/acl-overview.html
  - CLI
    - $ aws s3 cp s3://src-bucket s3://dst-bucket --recursive -- acl bucket-owner-full-control
  - Boto3 S3
    - s3 = boto3.resource('s3')
      object = s3.Object('bucket_name','key')
      object.upload_fileobj(content)
      object.Acl().put(ACL='bucket-owner-full-control')
  - S3 bug: multipart_upload does not support ACL
    - https://github.com/aws/aws-cli/issues/1674

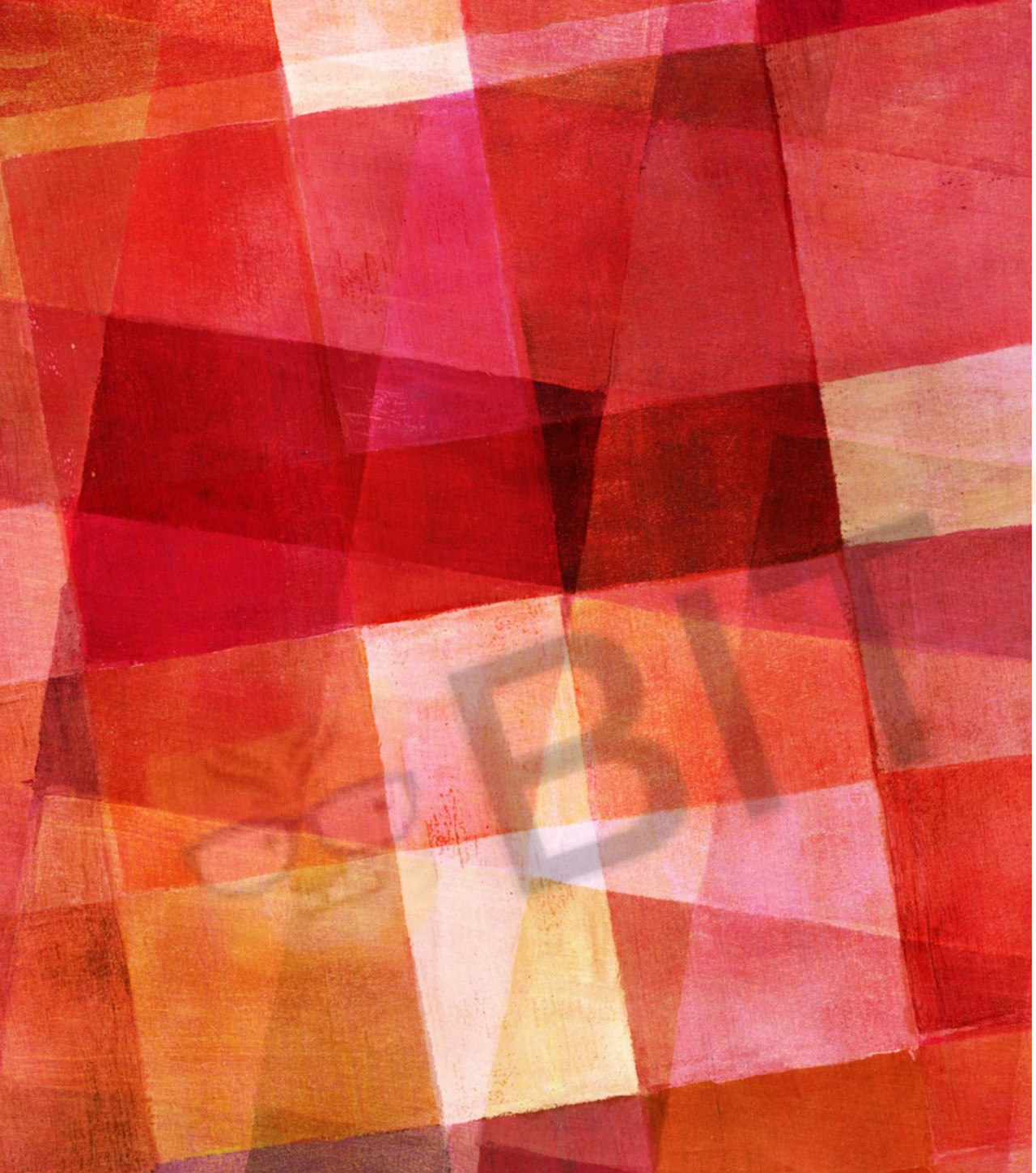
RAW2AWS PERFORMANCE

- 3600 line per second per core
  - Inbound bandwidth: 3600x160 bytes = 562 KB/sec
  - Outbound bandwidth: 3600 x 80 bytes = 281 KB/sec
- Compute-intensive or I/O intensive?
  - c4.8xlarge: 18 concurrent process
    - 10 Gbps > 562 KB/sec x 8 (79 Mbps)
  - CPU is dominate
- More cores per instance or more instances?

SECURITY GROUP RULES

- Whitelist for Inbound/Outbound
  - Default is deny all
  - If there is an allow for the security group which EC2 instances belong to, then allow rule applies





QUESTIONS

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