

```

@startuml
!theme toy
skinparam linetype ortho
skinparam packageStyle rectangle

' --- CAPA DE DOMINIO (El Corazón - Sin dependencias externas) ---
package "Domain Layer" #f9f9f9 {

    package "Aggregates & Entities" {
        class User <<Aggregate Root>> {
            - UserId id
            - Email email
            - PasswordHash password
            - PlanType plan
            - Counter emailsSentThisMonth
            + boolean canSend(int amount)
            + void trackUsage(int amount)
        }
    }

    class Campaign <<Aggregate Root>> {
        - CampaignId id
        - String subject
        - String contentHtml
        - SenderIdentity sender
        - CampaignStatus status
        - ListId targetListId
        + void launch()
        + void markAsFailed(String reason)
    }
}

class Contact <<Entity>> {
    - ContactId id
    - Email email
    - Map<String, String> customFields
    + void updateCustomData(String key, String value)
}
}

package "Value Objects" {
    class Email <<ValueObject>> {
        - String address
        + void validate()
    }
    class SenderIdentity <<ValueObject>> {
        - String name
        - String replyTo
        + String formatBranded(String domain)
    }
}

```

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}

enum PlanType {
    FREE(500)
    PRO(50000)
    - int limit
    + int getLimit()
}
enum CampaignStatus {
    DRAFT, SENDING, SENT, FAILED
}
}

package "Ports (Interfaces)" {
    ' Puertos de Salida (Output Ports)
    interface UserRepository <<Port>>
    interface CampaignRepository <<Port>>
    interface ContactRepository <<Port>>
    interface EmailSender <<Port>>

    ' Puertos de Entrada (Input Ports - Opcional en algunas implementaciones,
    aquí son los UseCases)
}
}

' --- CAPA DE APLICACIÓN (Orquestación de Casos de Uso) ---
package "Application Layer" #e3f2fd {

    class CreateCampaignUseCase {
        - CampaignRepository campaignRepo
        + CampaignId execute(CreateCampaignCommand cmd)
    }

    class ExecuteCampaignUseCase {
        - CampaignRepository campaignRepo
        - ContactRepository contactRepo
        - UserRepository userRepo
        - EmailSender emailSender
        + void execute(Long campaignId)
    }

    class ImportContactsUseCase {
        - ContactRepository contactRepo
        - UserRepository userRepo
        + void execute(ImportCommand cmd)
    }
}

```

```

' --- CAPA DE INFRAESTRUCTURA (Detalles de Implementación) ---
package "Infrastructure Layer" #fff3e0 {

    package "Persistence Adapters" {
        class JpaUserRepository implements UserRepository
        class JpaCampaignRepository implements CampaignRepository
        class JpaContactRepository implements ContactRepository
    }

    package "External Services Adapters" {
        class AwsSesAdapter implements EmailSender {
            - SesV2Client sesClient
        }
    }

    package "Security" {
        class JwtTokenProvider
        class AuthDetailsService
    }
}

```

```

' --- CAPA DE ENTRADA (Drivers / Controllers) ---
package "Web Layer (Adapters In)" #f1f8e9 {
    class CampaignController {
        - CreateCampaignUseCase createUseCase
        - ExecuteCampaignUseCase executeUseCase
        + create()
        + send()
    }
    class ContactController {
        - ImportContactsUseCase importUseCase
        + batchUpload()
    }
}

```

' Relaciones principales

```

CampaignController --> CreateCampaignUseCase
CampaignController --> ExecuteCampaignUseCase
ExecuteCampaignUseCase --> EmailSender : "uses Port"
ExecuteCampaignUseCase --> CampaignRepository : "uses Port"
ExecuteCampaignUseCase --> ContactRepository : "uses Port"
ExecuteCampaignUseCase --> UserRepository : "uses Port"

```

' El Dominio no conoce a nadie, la Infraestructura implementa sus Puertos

```

JpaCampaignRepository ..|> CampaignRepository
AwsSesAdapter ..|> EmailSender

```

@enduml