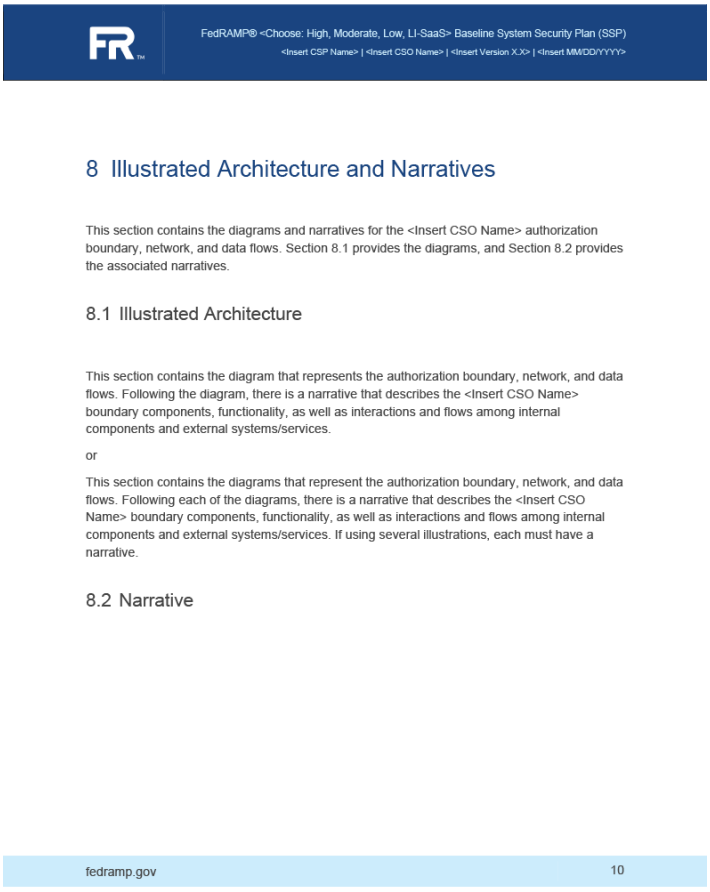
8. Illustratred Architecture and Narratives

The Architecture, Network and Data Flow Diagramss are each represented using the same OSCAL patterns, with only the top level assemby name changing.

Authorization Boundary

The OSCAL approach to this type of diagram is to treat the image data as either a linked or base64-encoded `resource` in the `back-matter` section of the OSCAL file, then reference the diagram using the `link` field. The narrative describing the system architecture must be provided in the `description` field of the `authorization-boundary` assembly.



OSCAL Representation

```
system-security-plan:
  uuid: 11111111-2222-4000-8000-000000000000
  system-characteristics:
    authorization-boundary:
      description: A holistic, top-level explanation of the FedRAMP authorization boundary.
```

```
      diagrams:
      - uuid: 11111111-2222-4000-8000-007000000001
        description: A diagram-specific explanation.
        links:
        - href: '#11111111-2222-4000-8000-001000000054'
          rel: diagram
        caption: Authorization Boundary Diagram


  back-matter:
    resources:
    - uuid: 11111111-2222-4000-8000-001000000054
      title: Boundary Diagram
      description: The primary authorization boundary diagram.
      props:
      - name: type
        value: image
        class: authorization-boundary
      rlinks:
      - href: ./attachments/diagrams/boundary.png
```

To represent the **Authorization Boundary** from the legacy SSP in an OSCAL-based System Security Plan, the data is centered within the `system-characteristics` section under the `authorization-boundary` element.

The following elements and structures are used to capture the boundary definition:

- **Boundary Narrative:** An `overall-description` is used to provide a high-level technical and functional summary of the system's limits.
- **Visual Documentation:** The model tracks the total number of boundary diagrams present to ensure compliance with the minimum requirement of at least one visual representation.
- **Diagram Linking:** Each diagram is referenced via a `link` containing a unique identifier or path. This link either points to an external URI or a local reference within the OSCAL document.
- **Resource Storage:** The actual image data or file location for a diagram is stored in the `back-matter` section. This is handled as a `resource` which can either contain the raw `base64` encoded image data or a remote link (`rlink`) to the hosted file.
- **Contextual Details:** Individual diagrams can also include their own specific `description` to clarify the components, data flows, or sub-networks depicted in that particular view.

When multiple diagrams are required to show different perspectives of the boundary, each is listed as a sequential entry within the authorization boundary array.

Network Architecture

The network architecture diagram follows the same patter as the *Authorization Boundary* diagram, except the content is placed under `network-architecture` instead of `authorization-boundary`.

OSCAL Representation

```
system-security-plan:
  uuid: 11111111-2222-4000-8000-000000000000
  system-characteristics:
    network-architecture:
      description: A holistic, top-level explanation of the network architecture.
      diagrams:
      - uuid: 11111111-2222-4000-8000-007000000002
        description: A diagram-specific explanation.
        links:
        - href: '#11111111-2222-4000-8000-001000000055'
          rel: diagram
        caption: Network Diagram

  back-matter:
    resources:
    - uuid: 11111111-2222-4000-8000-001000000055
      title: Network Diagram
      description: The primary network diagram.
      props:
      - name: type
        value: image
        class: network-architecture
      rlinks:
      - href: ./attachments/diagrams/network.png
```

Data Flow

The data flow diagram follows the same pattern as the *Authorization Boundary* diagram, except the content is placed under `data-flow` instead of `authorization-boundary`.

OSCAL Representation

```
system-security-plan:
  uuid: 11111111-2222-4000-8000-000000000000
  system-characteristics:
    data-flow:
      description: A holistic, top-level explanation of the system's data flows.
      diagrams:
      - uuid: 11111111-2222-4000-8000-007000000003
        description: A diagram-specific explanation.
        links:
        - href: '#11111111-2222-4000-8000-001000000056'
          rel: diagram
        caption: Data Flow Diagram

  back-matter:
    resources:
    - uuid: 11111111-2222-4000-8000-001000000056
      title: Data Flow Diagram
      description: The primary data flow diagram.
      props:
      - name: type
        value: image
        class: data-flow
      rlinks:
      - href: ./attachments/diagrams/dataflow.png
```

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