

Curso: Engenharia

DISCIPLINA: Gestão de Processos
Um manual de BPMN

Referência: Business Process Model and Notation (BPMN)
Version 2.0

Prof. Clayton J A Silva, MSc
clayton.silva@professores.ibmec.edu.br



Ferramentas

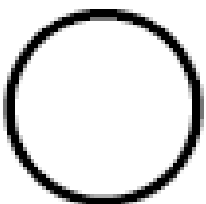
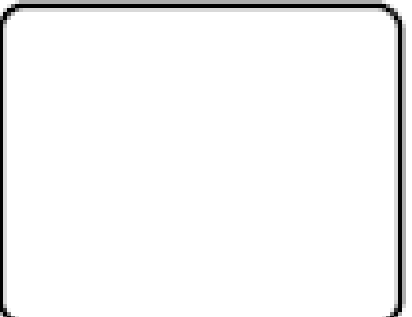
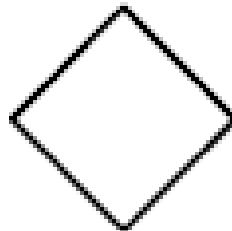



Elementos

- Organizar os aspectos gráficos da notação em categorias específicas.
- Dentro das categorias básicas de elementos, é possível adicionar variações e informações adicionais para suportar requisitos mais complexos sem alterar drasticamente a aparência e a estrutura fundamental do diagrama.
- As cinco **categorias** básicas de elementos são: Objetos de Fluxo; Dados; Objetos de Conexão; Raia (*Swimlanes*); Artefatos.

Elementos

- Existem três tipos de Objetos de Fluxo: **Eventos; Atividades; Gateways.**
- Os Dados são representados por quatro elementos: **Objetos de Dados; Entradas de Dados; Saídas de Dados; Armazenamento de Dados.**
- Existem quatro formas de conectar os Objetos de Fluxo entre si ou a outras informações. Os quatro Objetos de Conexão são: **Fluxos de Sequência; Fluxos de Mensagem; Associações; Associações de Dados.**
- Os principais elementos de modelagem podem ser agrupados de duas formas através das "Raias" (*Swimlanes*): **Pools; Lanes.**

Elementos Básicos

Element	Description	Notation
Event	An Event is something that “happens” during the course of a Process (see page 238) or a Choreography (see page 339). These Events affect the flow of the model and usually have a cause (<i>trigger</i>) or an impact (<i>result</i>). Events are circles with open centers to allow internal markers to differentiate different <i>triggers</i> or <i>results</i> . There are three types of Events, based on when they affect the flow: Start, Intermediate, and End.	
Activity	An Activity is a generic term for work that company performs (see page 151) in a Process. An Activity can be atomic or non-atomic (compound). The types of Activities that are a part of a Process Model are: Sub-Process and Task, which are rounded rectangles. Activities are used in both standard Processes and in Choreographies.	
Gateway	A Gateway is used to control the divergence and convergence of Sequence Flows in a Process (see page 145) and in a Choreography (see page 344). Thus, it will determine branching, forking, merging, and joining of paths. Internal markers will indicate the type of behavior control.	
Sequence Flow	A Sequence Flow is used to show the order that Activities will be performed in a Process (see page 97) and in a Choreography (see page 320).	
Message Flow	A Message Flow is used to show the flow of Messages between two <i>Participants</i> that are prepared to send and receive them (see page 120). In BPMN, two separate Pools in a Collaboration Diagram will represent the two <i>Participants</i> (e.g., PartnerEntities and/or PartnerRoles).	
Association	An Association is used to link information and Artifacts with BPMN graphical elements (see page 67). Text Annotations (see page 71) and other Artifacts (see page 66) can be Associated with the graphical elements. An arrowhead on the Association indicates a direction of flow (e.g., data), when appropriate.	

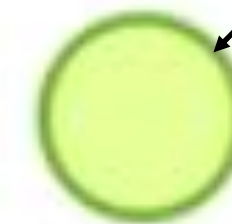
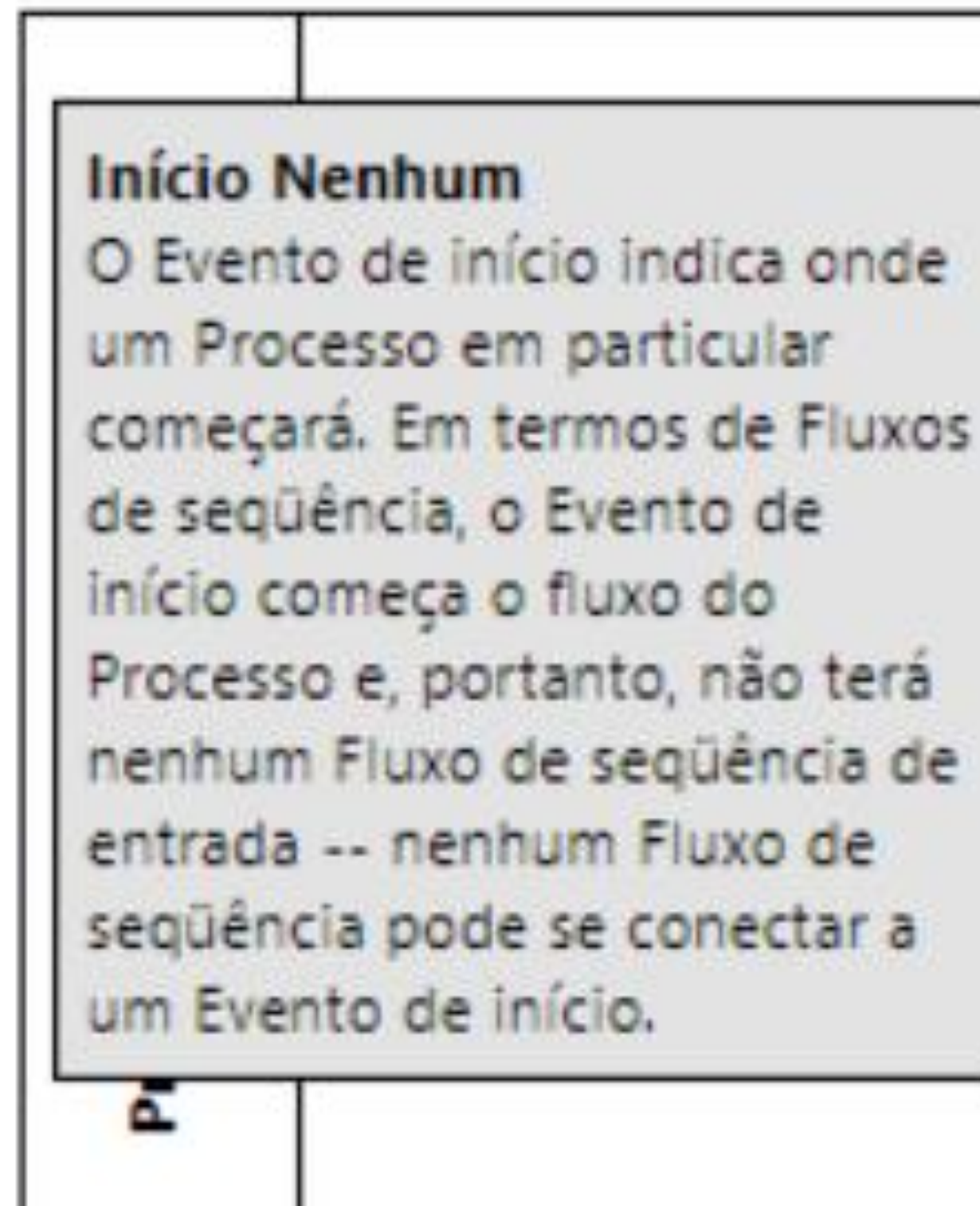
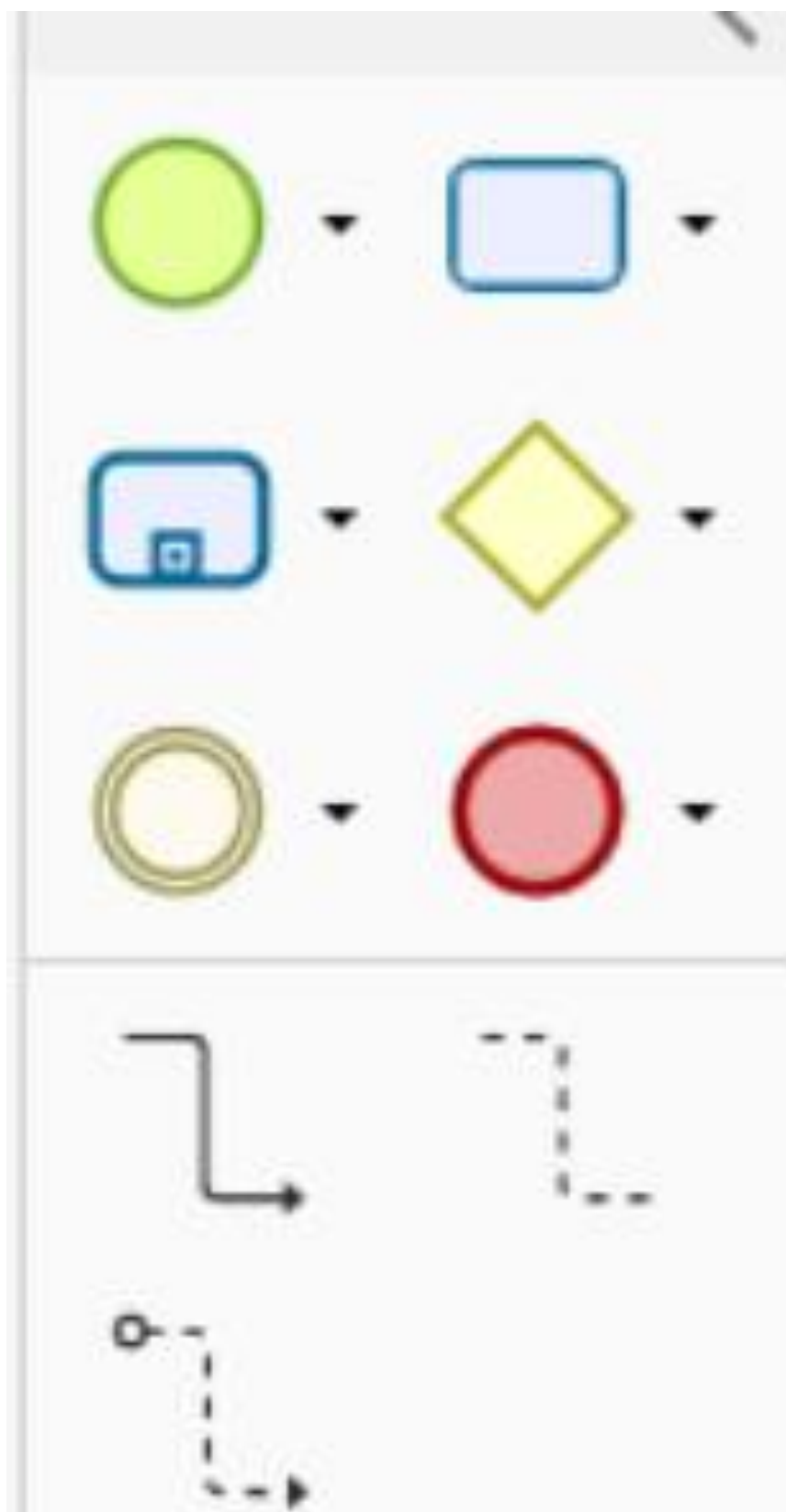
Objetos de Fluxo

- Existem três tipos de Objetos de Fluxo:
 - ✓ **Eventos;**
 - ✓ **Atividades;**
 - ✓ **Gateways.**

Objetos de Fluxo - Eventos

Elementos estendidos do modelo

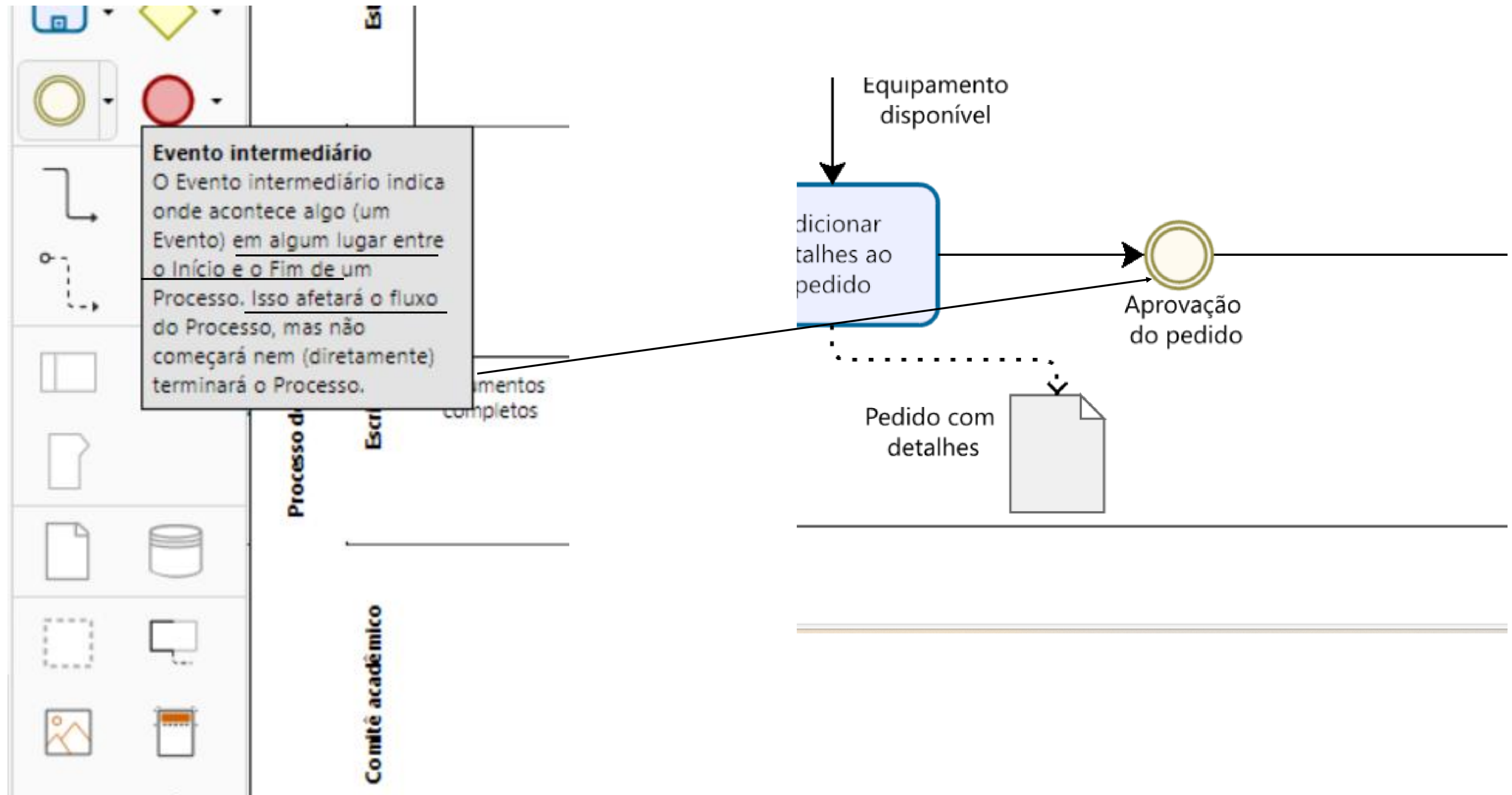
- Dimensão de Fluxo dos Eventos (Início, Intermediário, Fim)



Eventos correspondem a fatos que acontecem de **forma atômica**, ou seja, **não têm duração**.

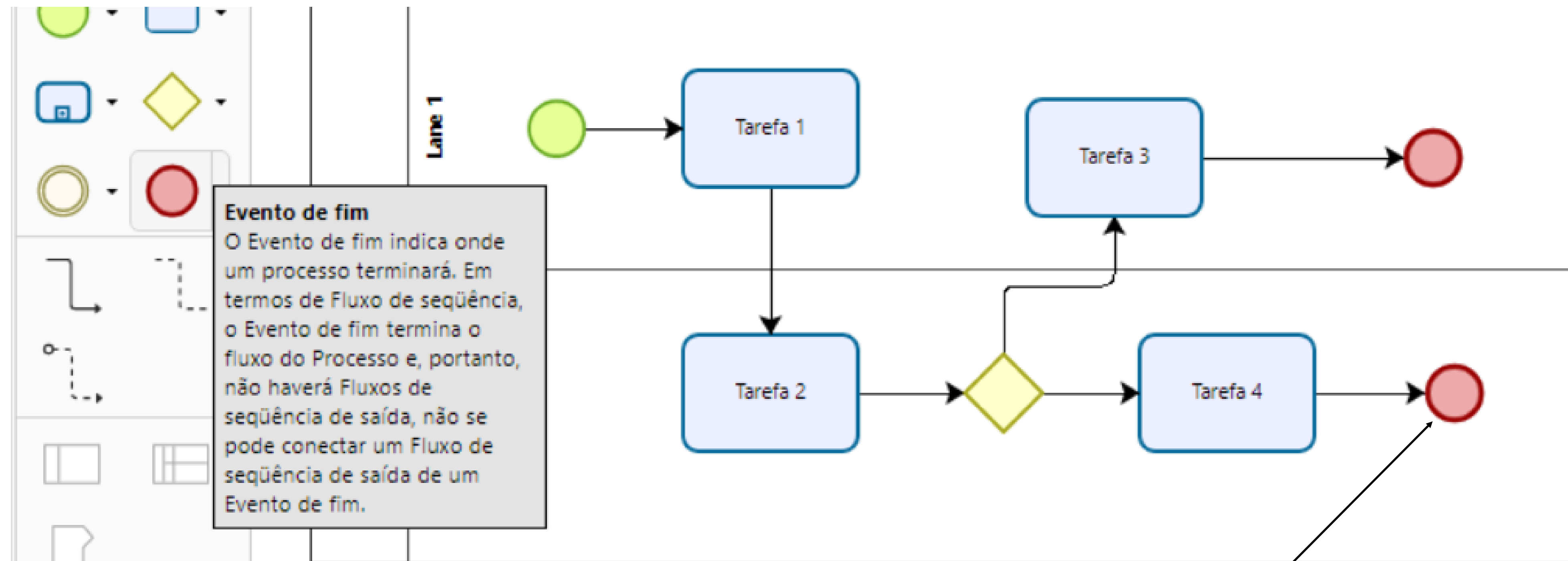
Objetos de Fluxo - Eventos

Elementos estendidos do modelo



Objetos de Fluxo - Eventos

Elementos estendidos do modelo

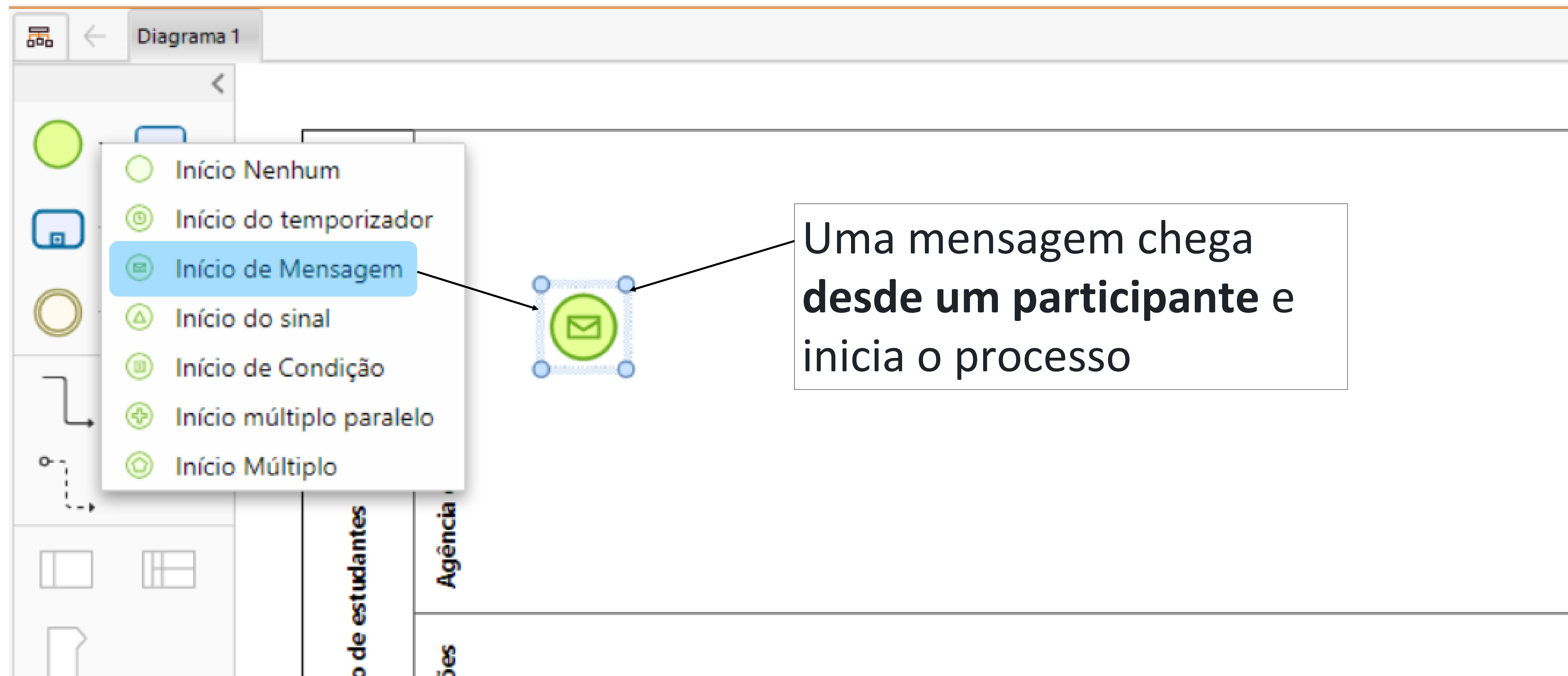


Qualquer que seja o fluxo de atividades, o processo deve chegar ao evento final a partir do evento inicial. Em alguns casos, o evento de fim leva a um resultado negativo.

Objetos de Fluxo - Eventos

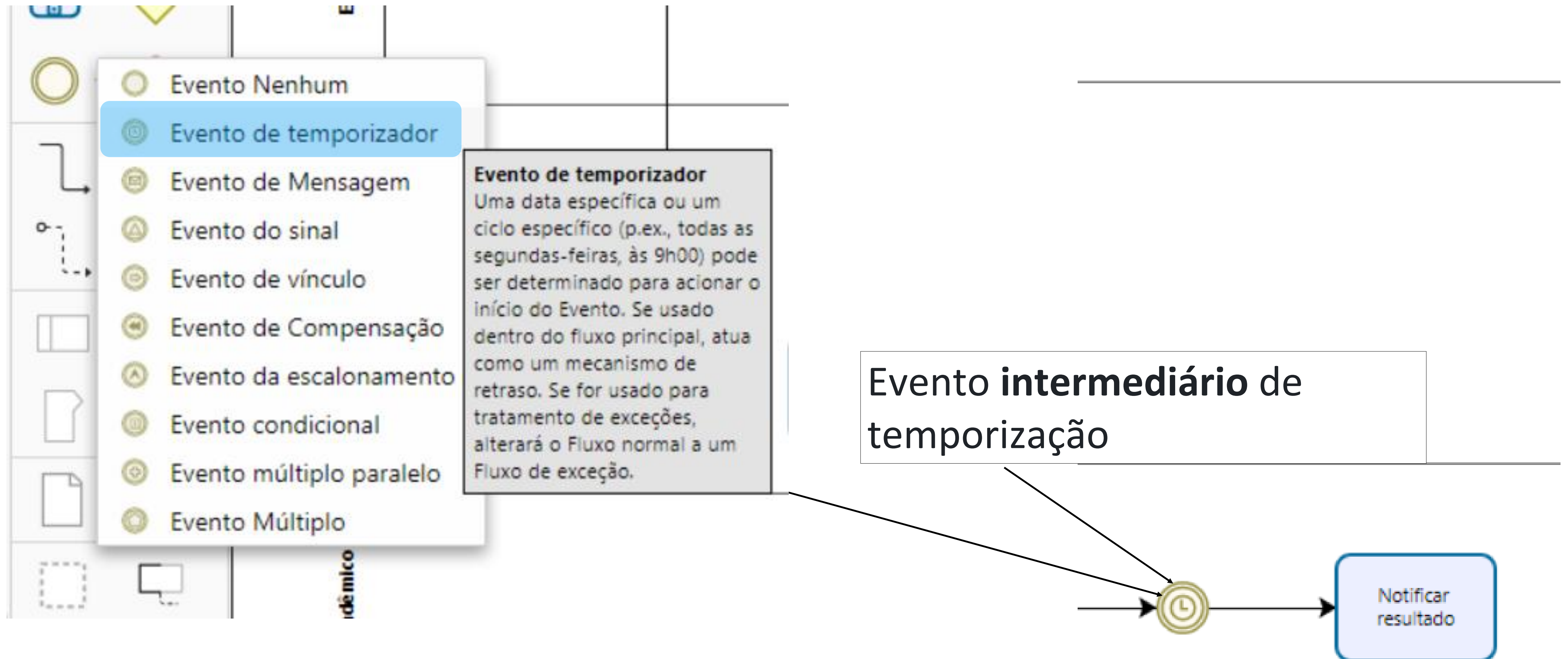
Elementos estendidos do modelo

- Dimensão de Tipo dos Eventos (por exemplo: Nenhum, Mensagem, Temporizador, Erro, Cancelamento, Compensação, Condicional, Link, Sinal, Múltiplo, Terminação.)



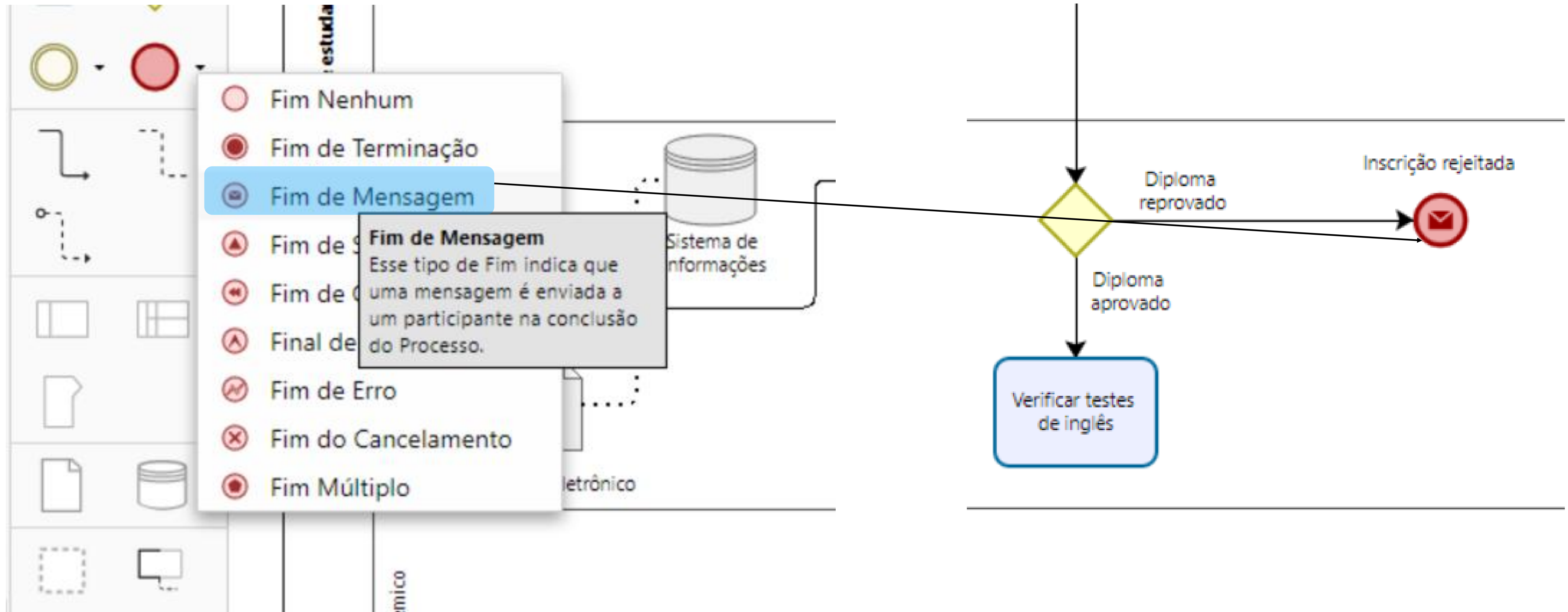
Objetos de Fluxo - Eventos

Elementos estendidos do modelo

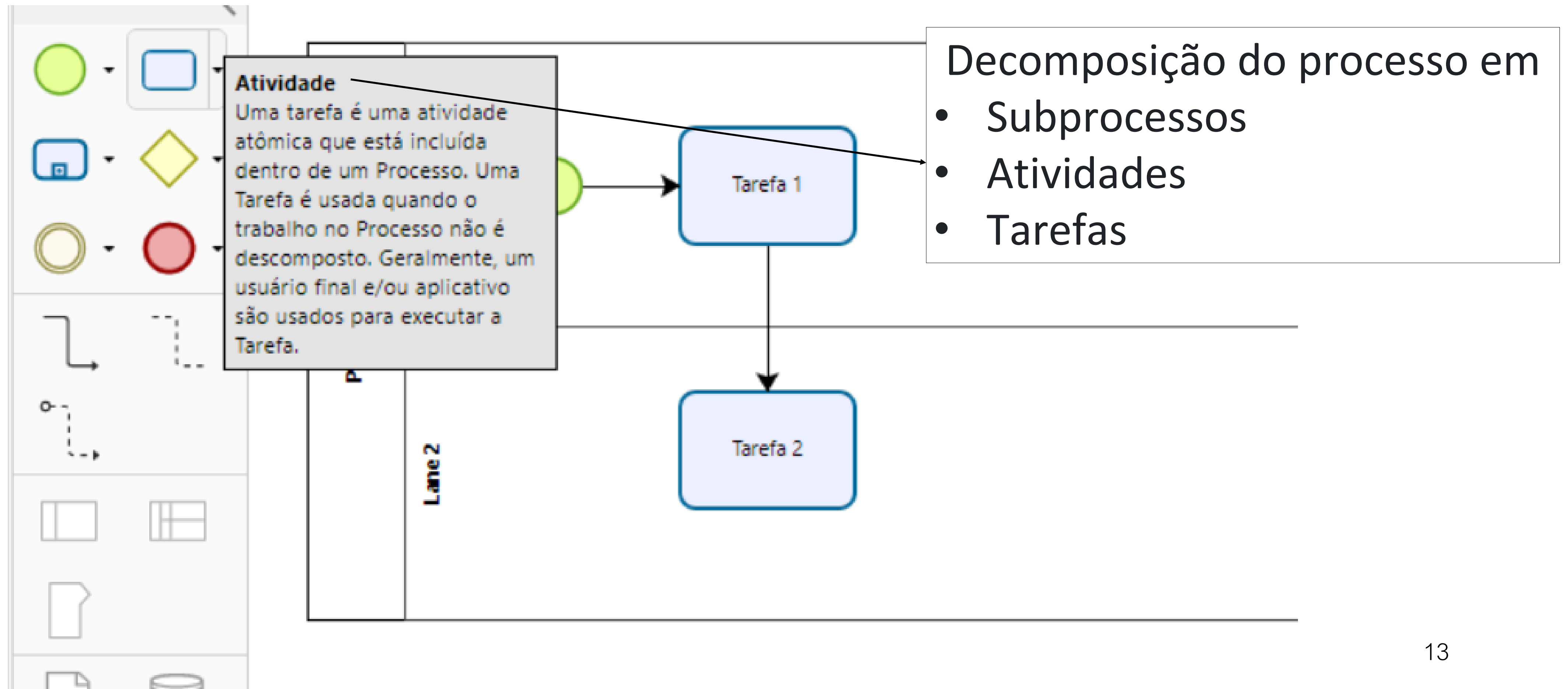


Objetos de Fluxo - Eventos

Elementos estendidos do modelo



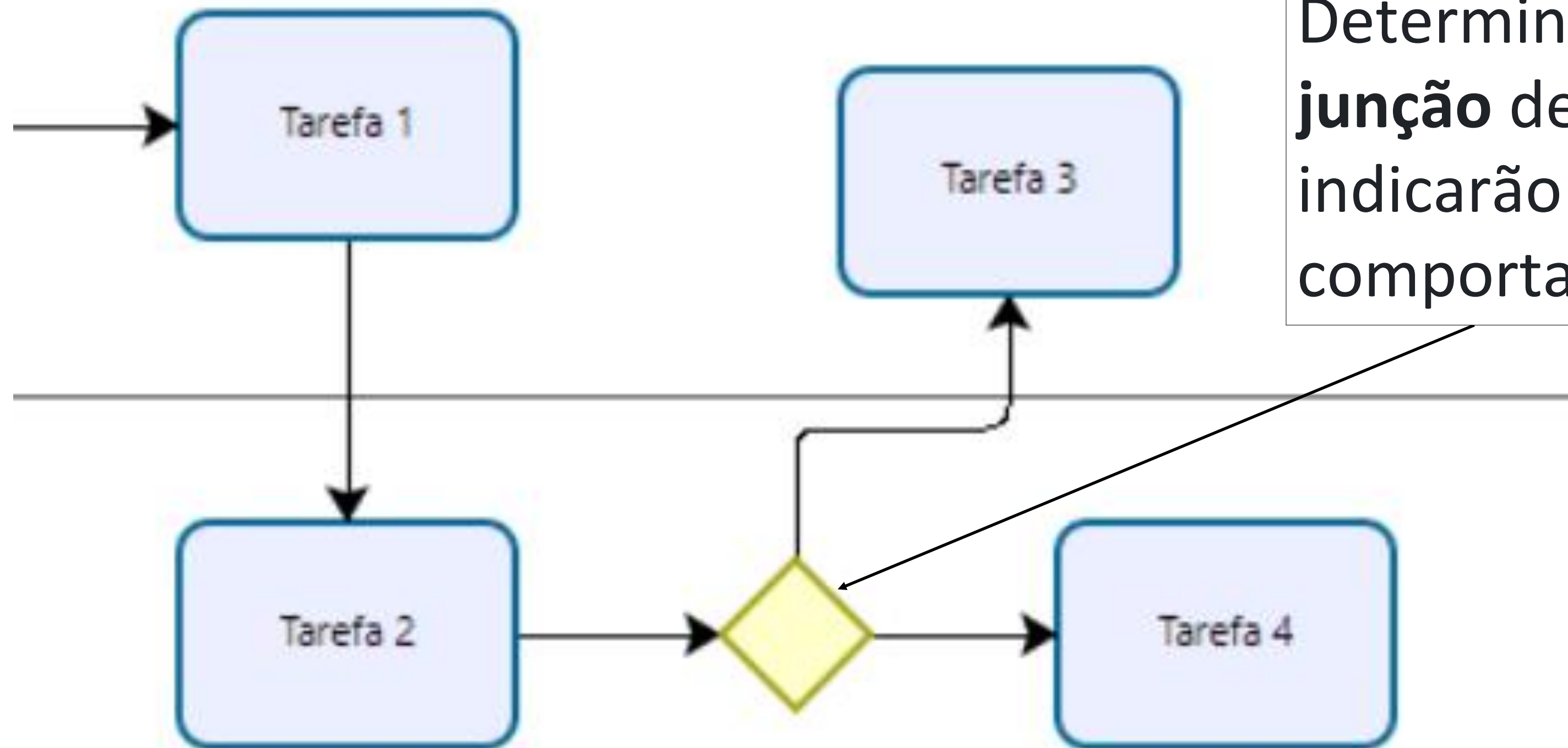
Objetos de Fluxo - Atividades



Objetos de Fluxo – Gateway

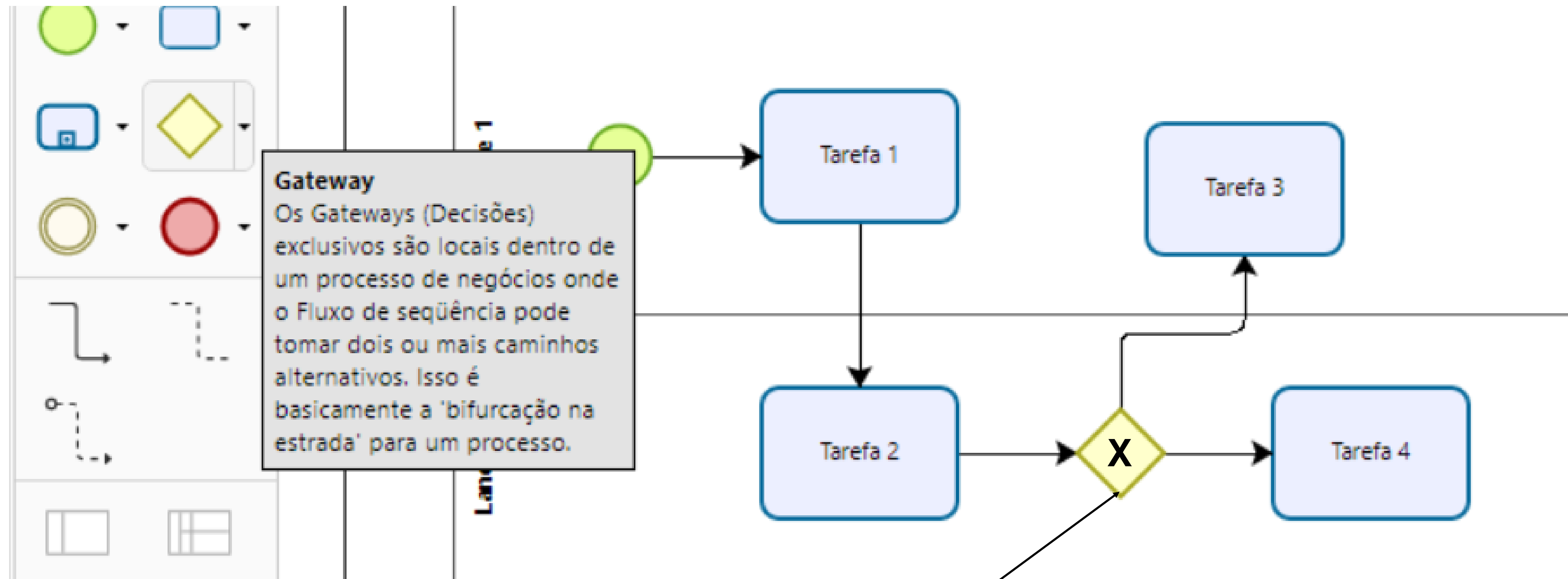
Controla a **convergência** ou a **divergência** no fluxo de tarefas no processo.

Determina a **ramificação**, **divisão**, **fusão** e **junção** de caminhos. **Marcadores internos** indicarão o tipo de controle de comportamento.



Objetos de Fluxo – Gateway

Elementos estendidos do modelo



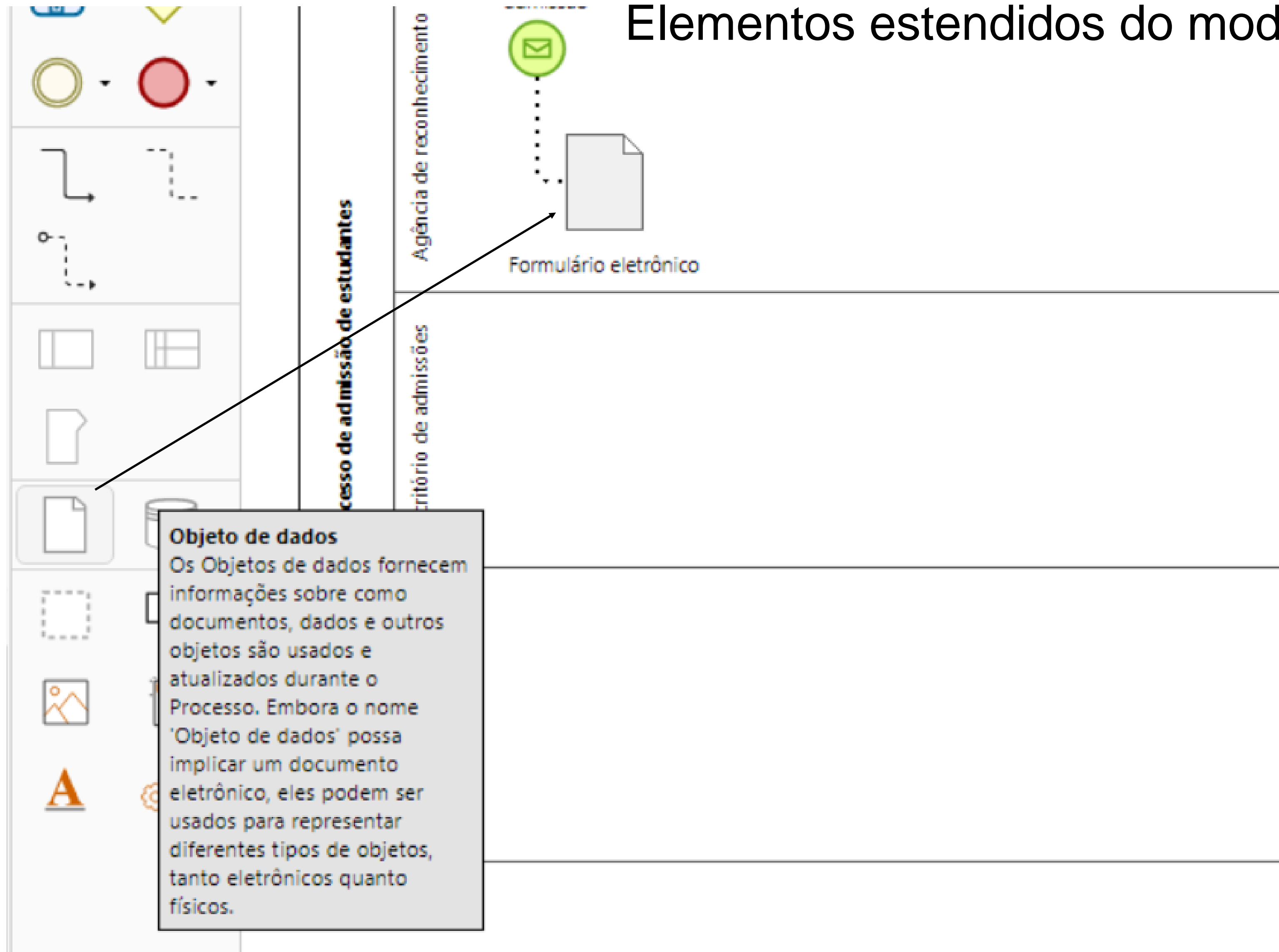
Tipo de controle: Gateway **exclusivo** implica um ou mais fluxos alternativos

Dados

- Os Dados são representados por quatro elementos:
 - ✓ **Objetos de Dados;**
 - ✓ **Entradas de Dados;**
 - ✓ **Saídas de Dados;**
 - ✓ **Armazenamento de Dados.**

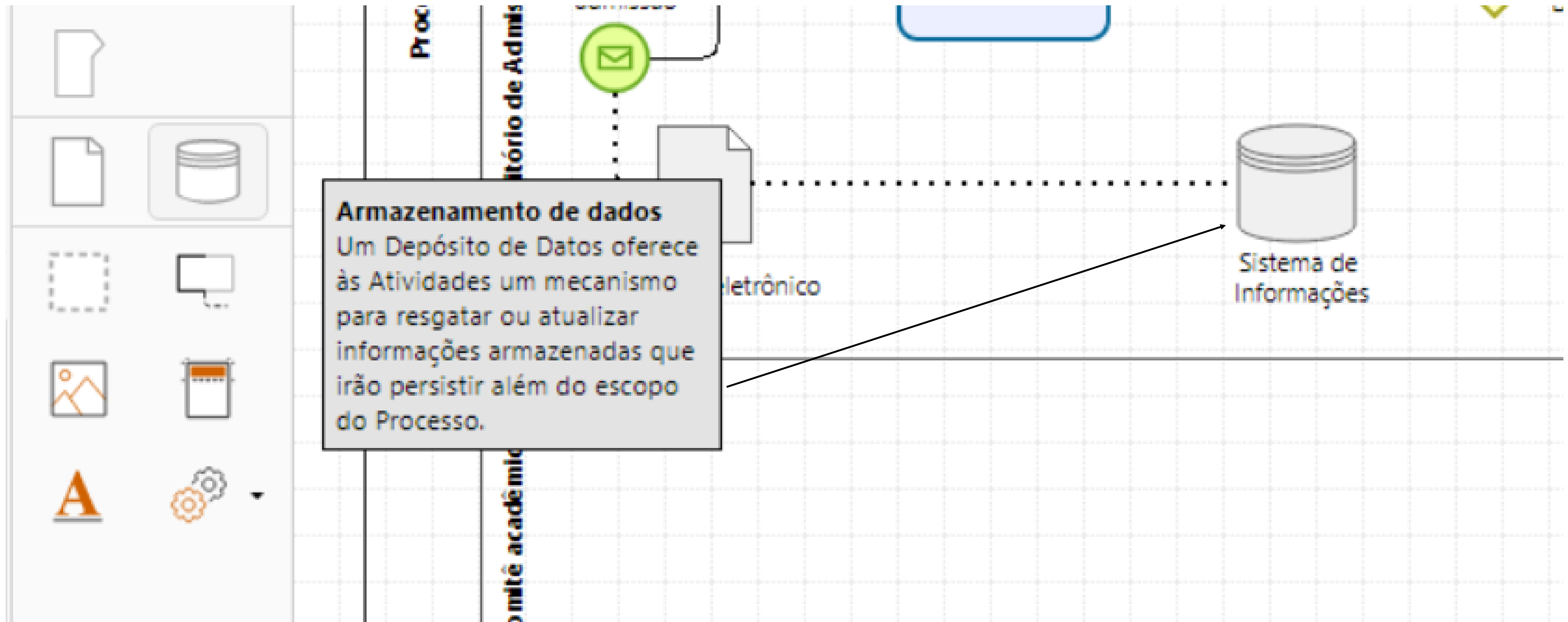
Dados – Objeto de Dados

Elementos estendidos do modelo



Dados – Armazenamento de Dados

Elementos estendidos do modelo

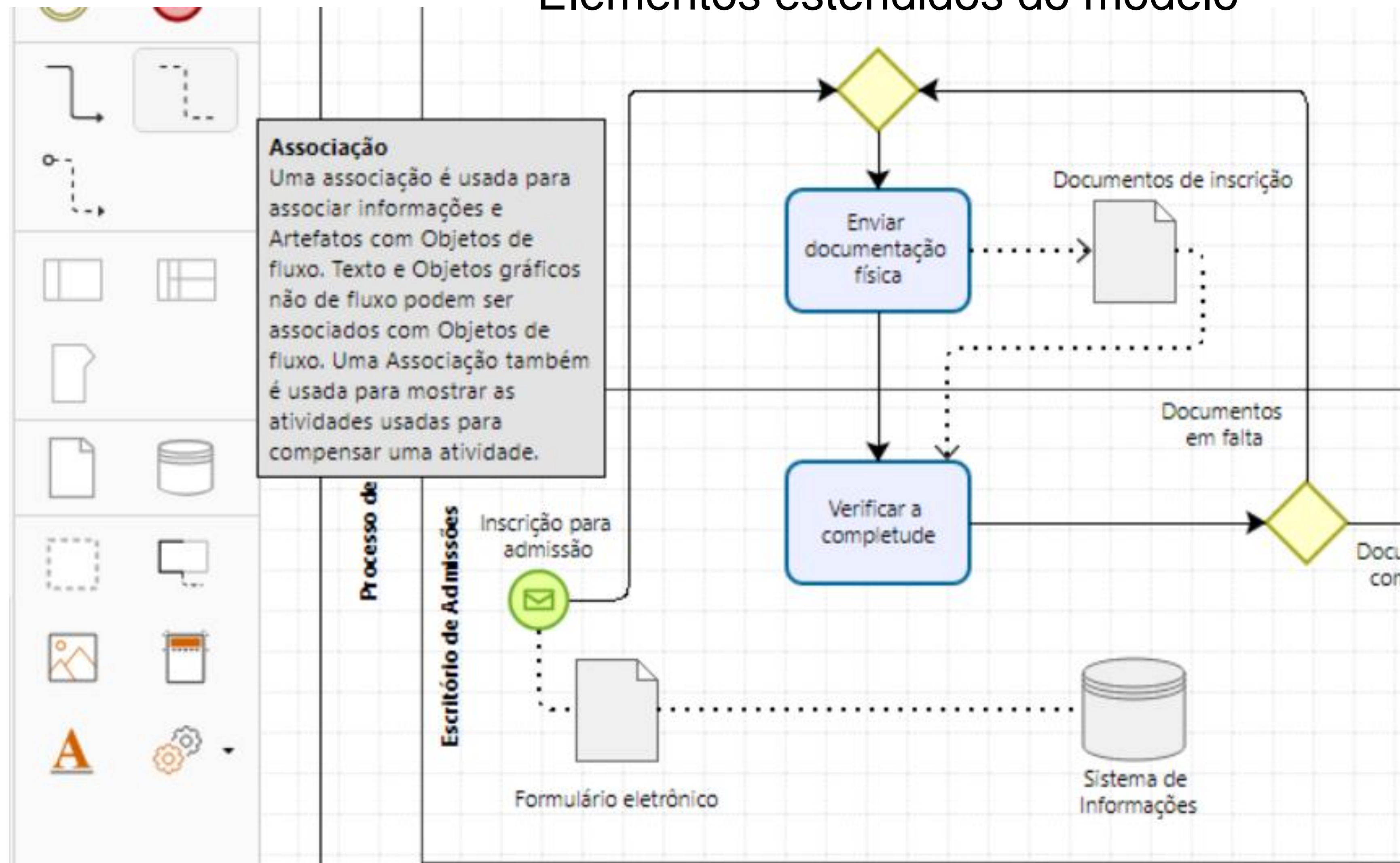


Objetos de Conexão

- Os quatro Objetos de Conexão são:
 - ✓ **Fluxos de Sequência;**
 - ✓ **Fluxos de Mensagem;**
 - ✓ **Associações;**
 - ✓ **Associações de Dados.**

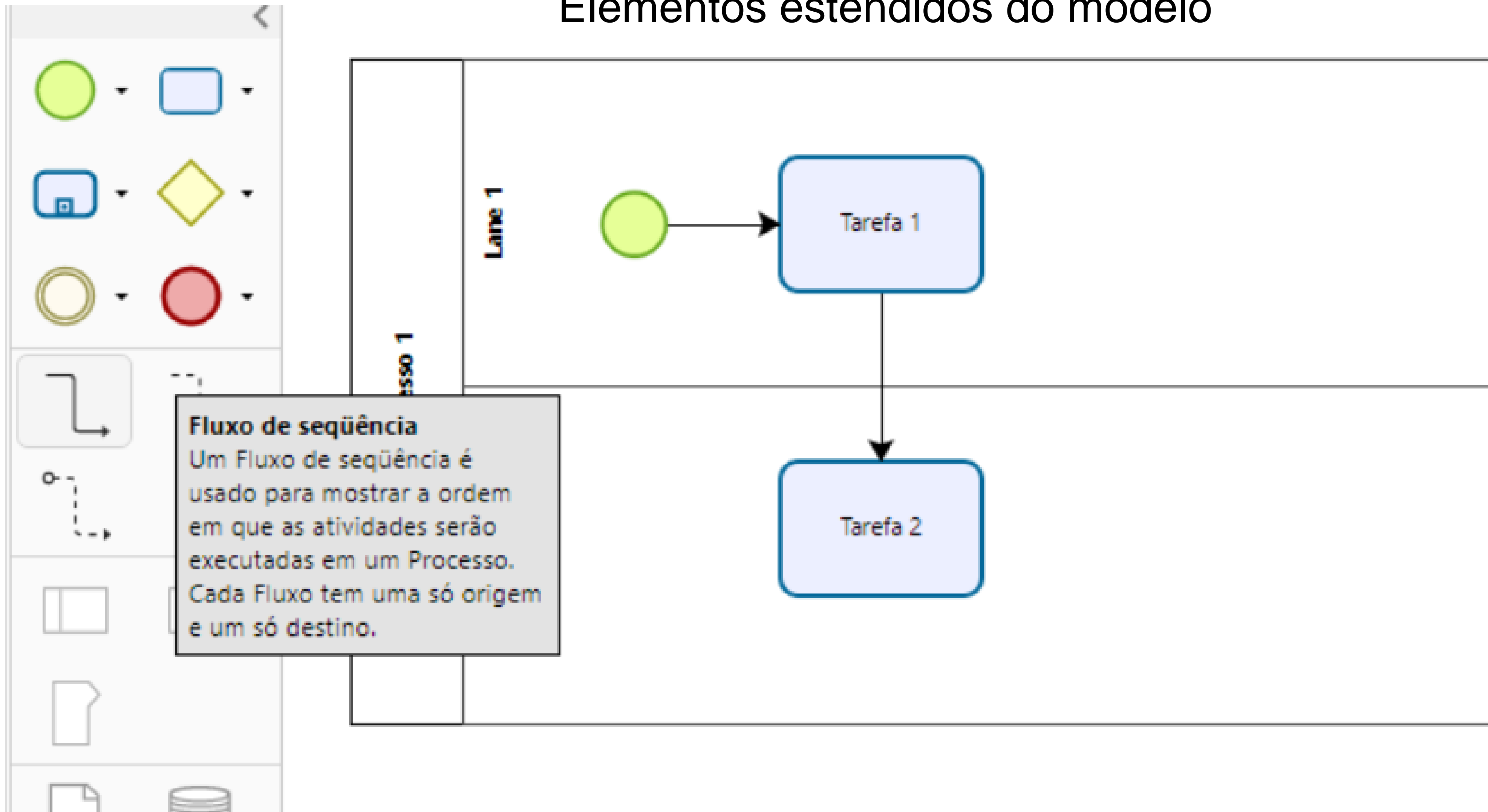
Objeto de Conexão - Associação

Elementos estendidos do modelo



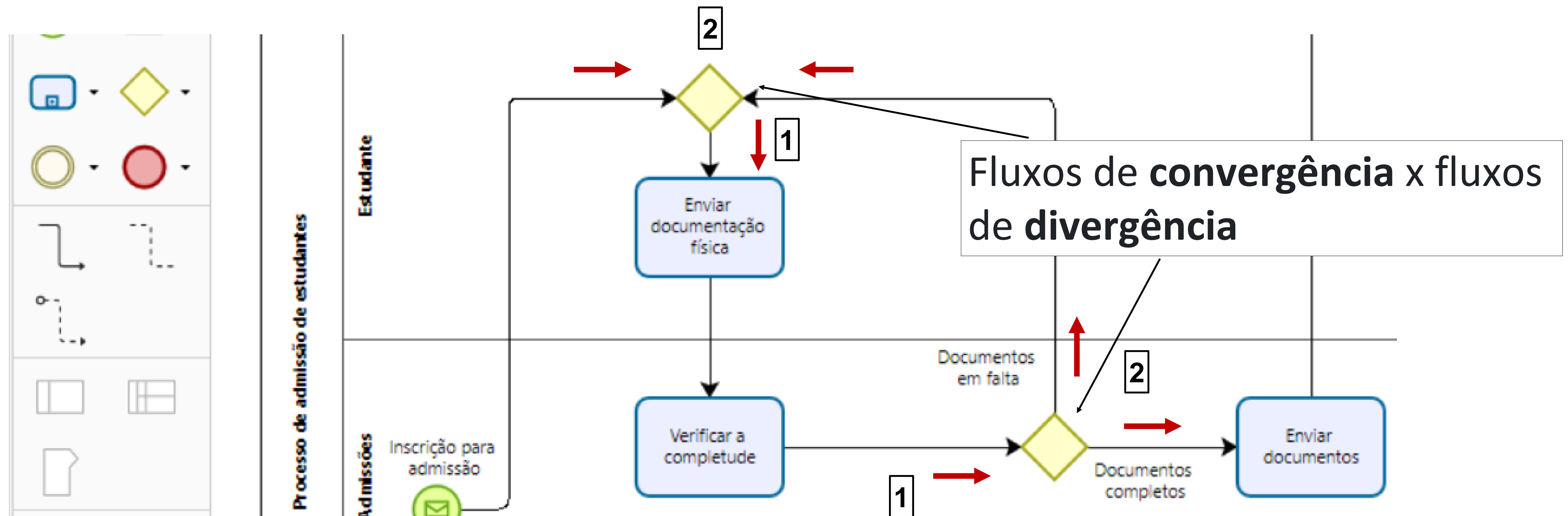
Objeto de Conexão – Fluxo de sequência

Elementos estendidos do modelo



Gateway x Objetos de Conexão

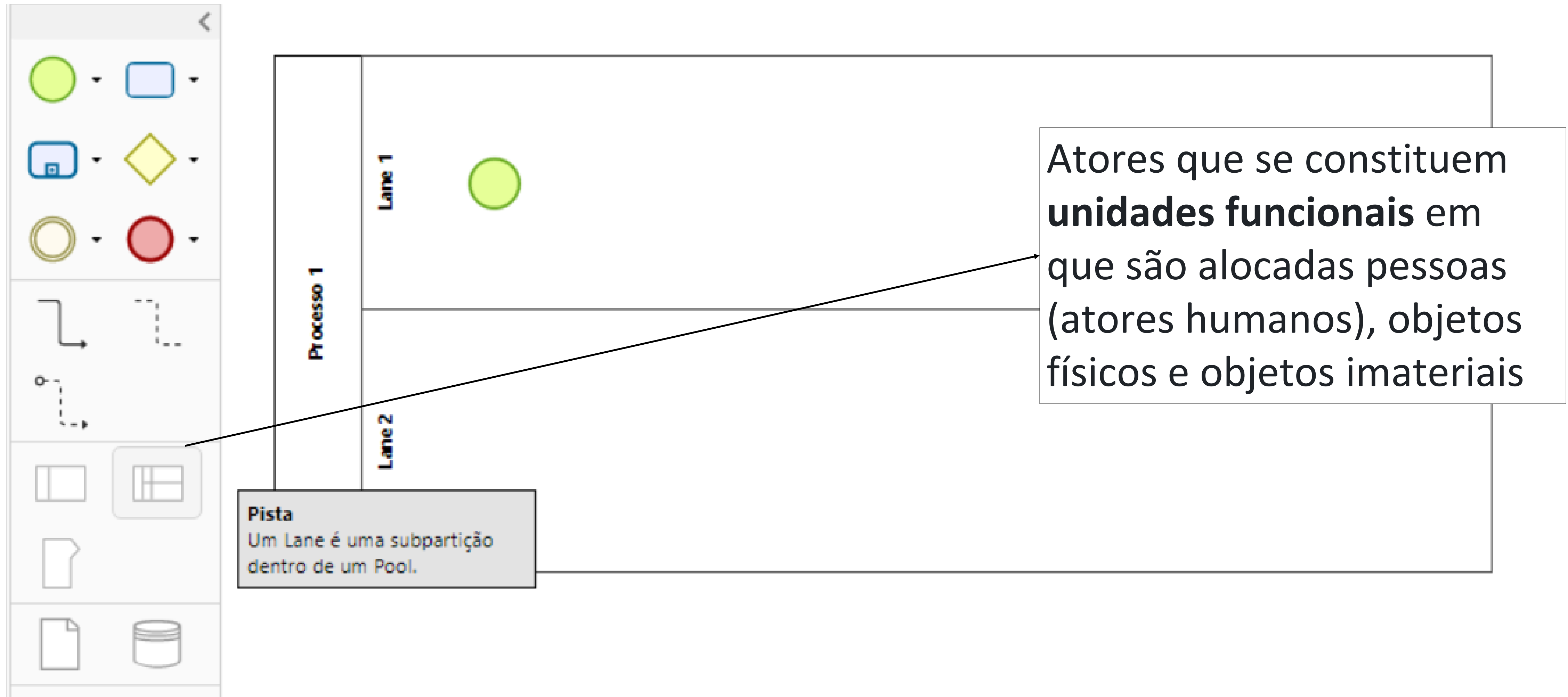
Elementos estendidos do modelo

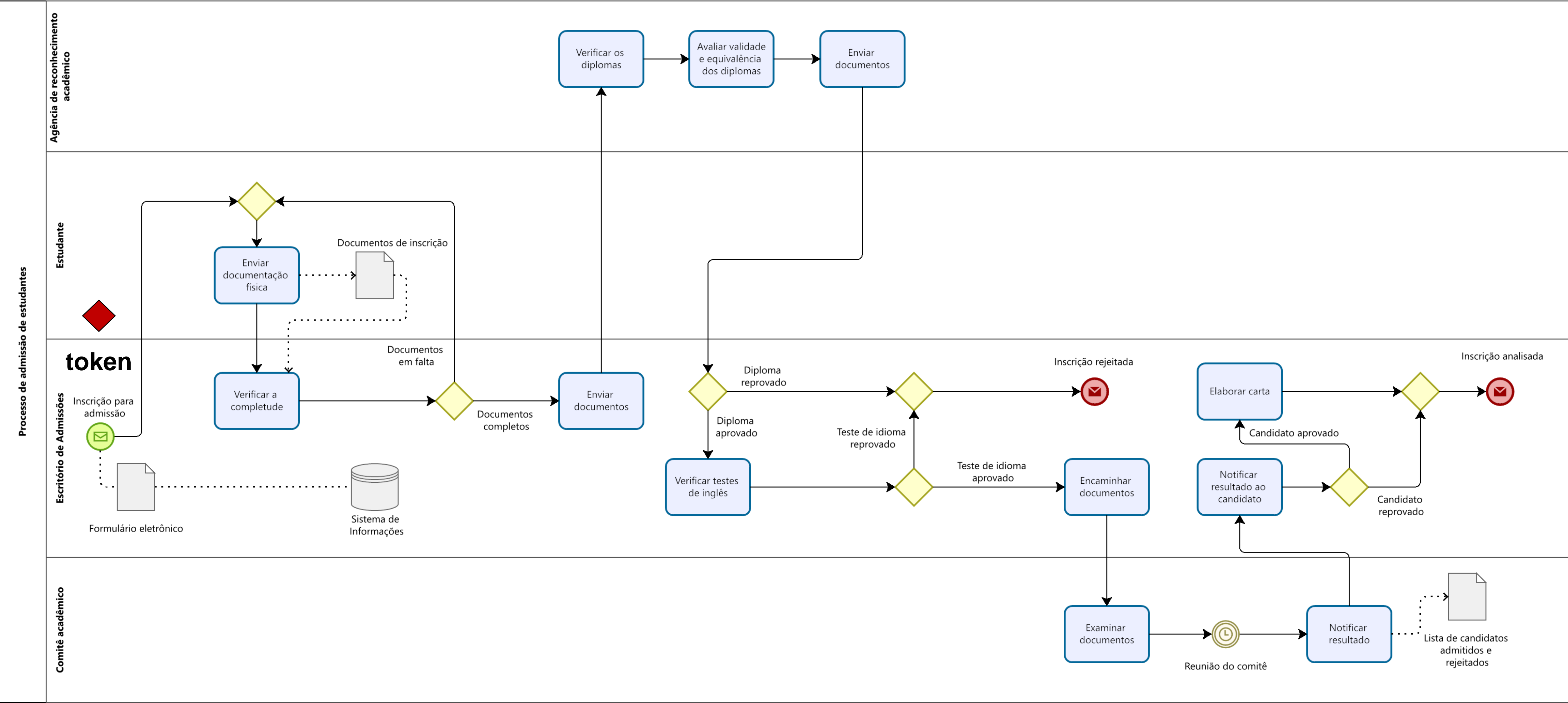


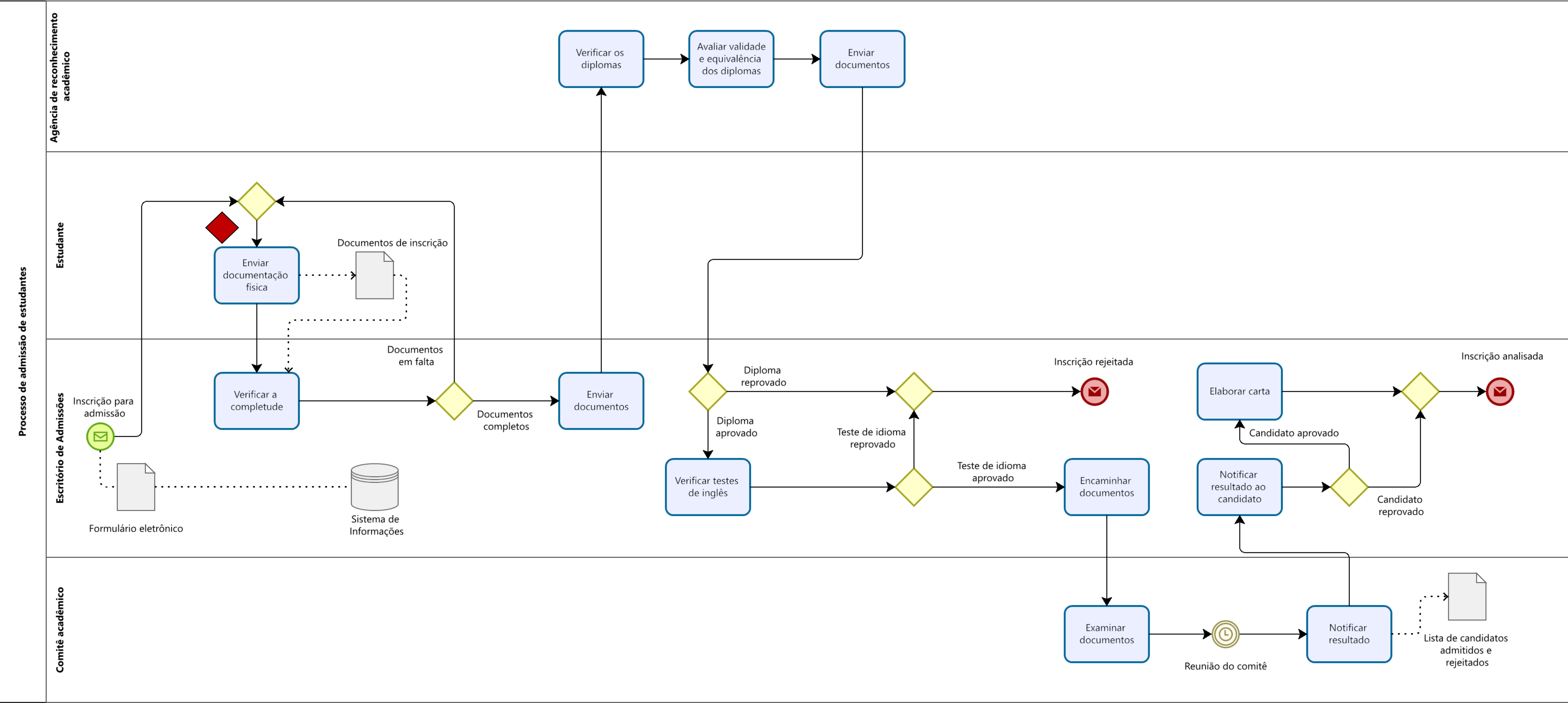
Swimlanes

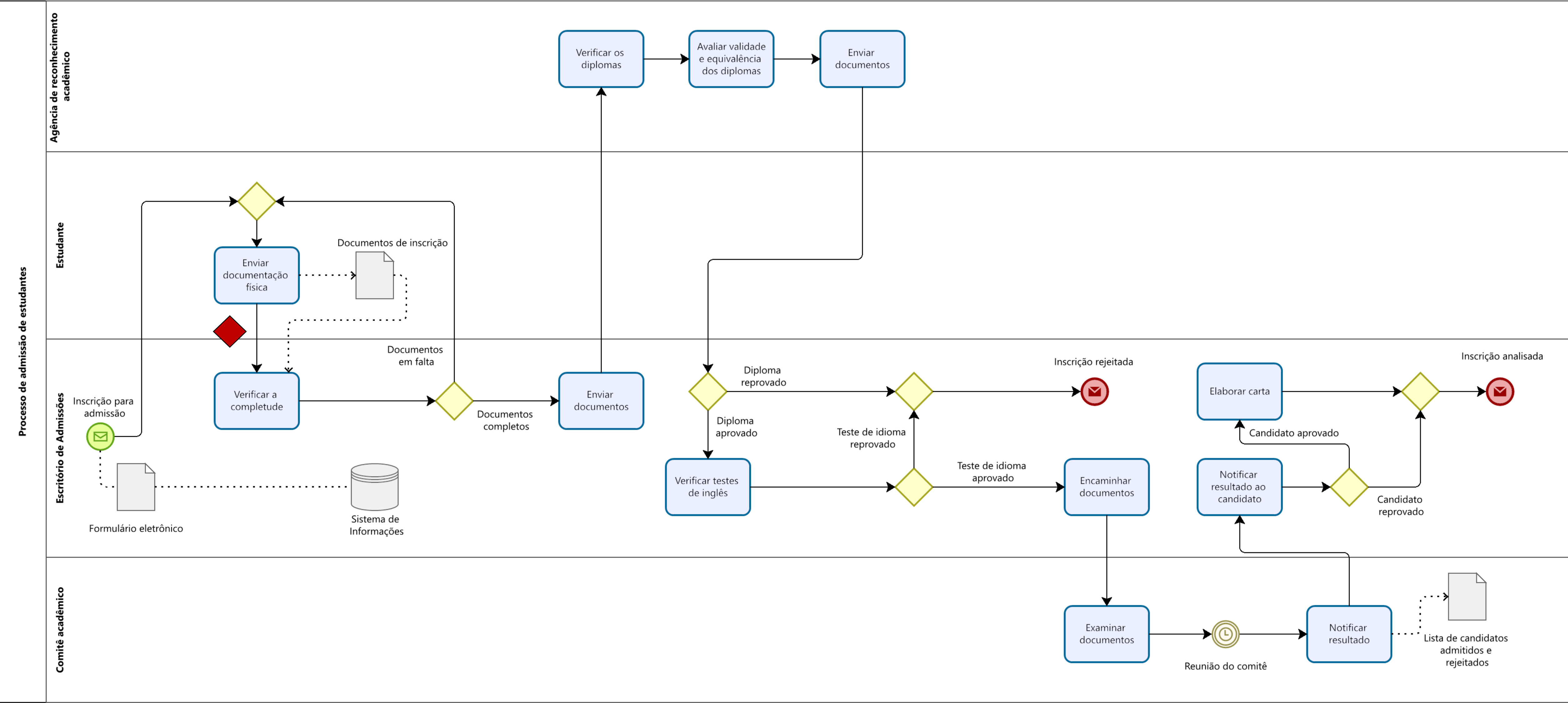
- Os principais elementos de modelagem podem ser agrupados de duas formas através das "Raias" (*Swimlanes*):
 - ✓ **Pools;**
 - ✓ **Lanes.**

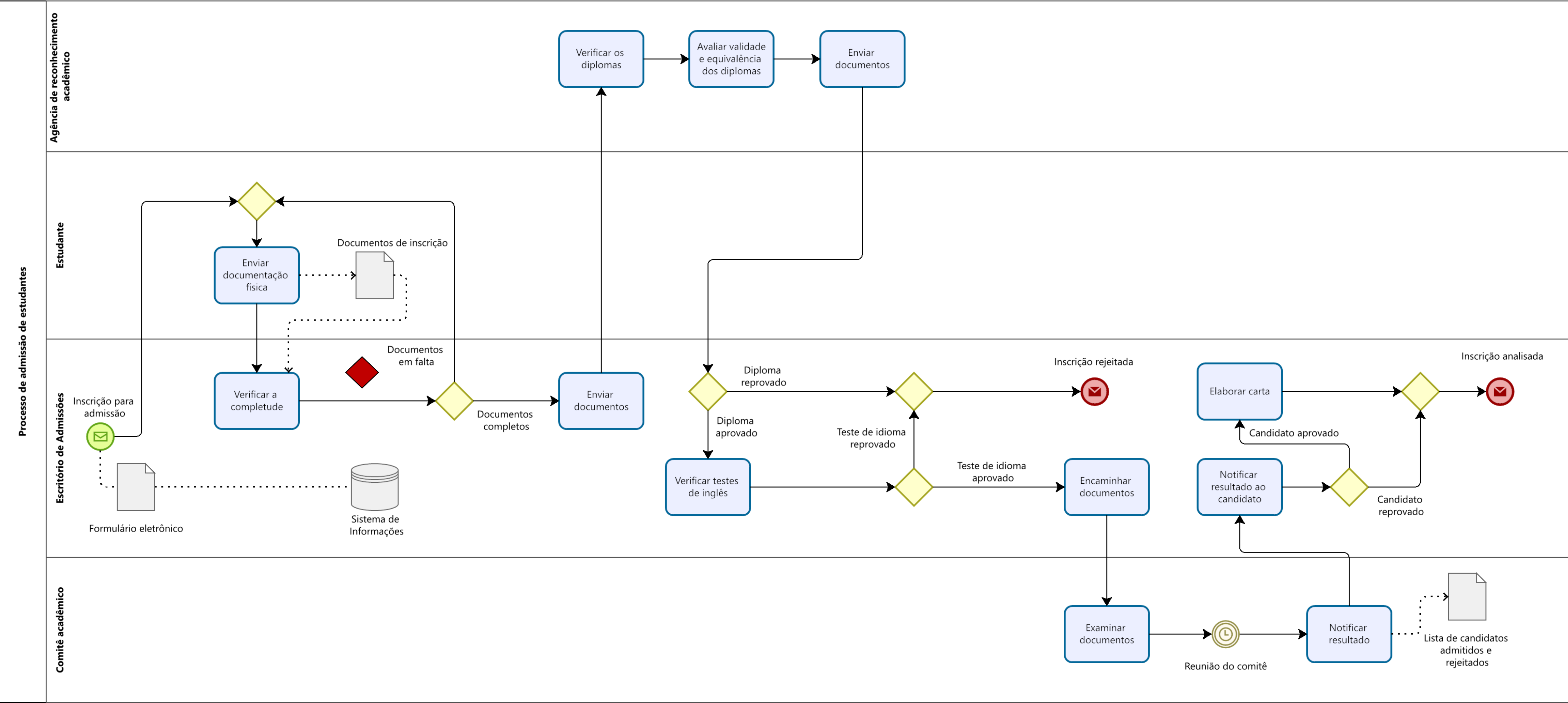
Swinlanes - Lanes

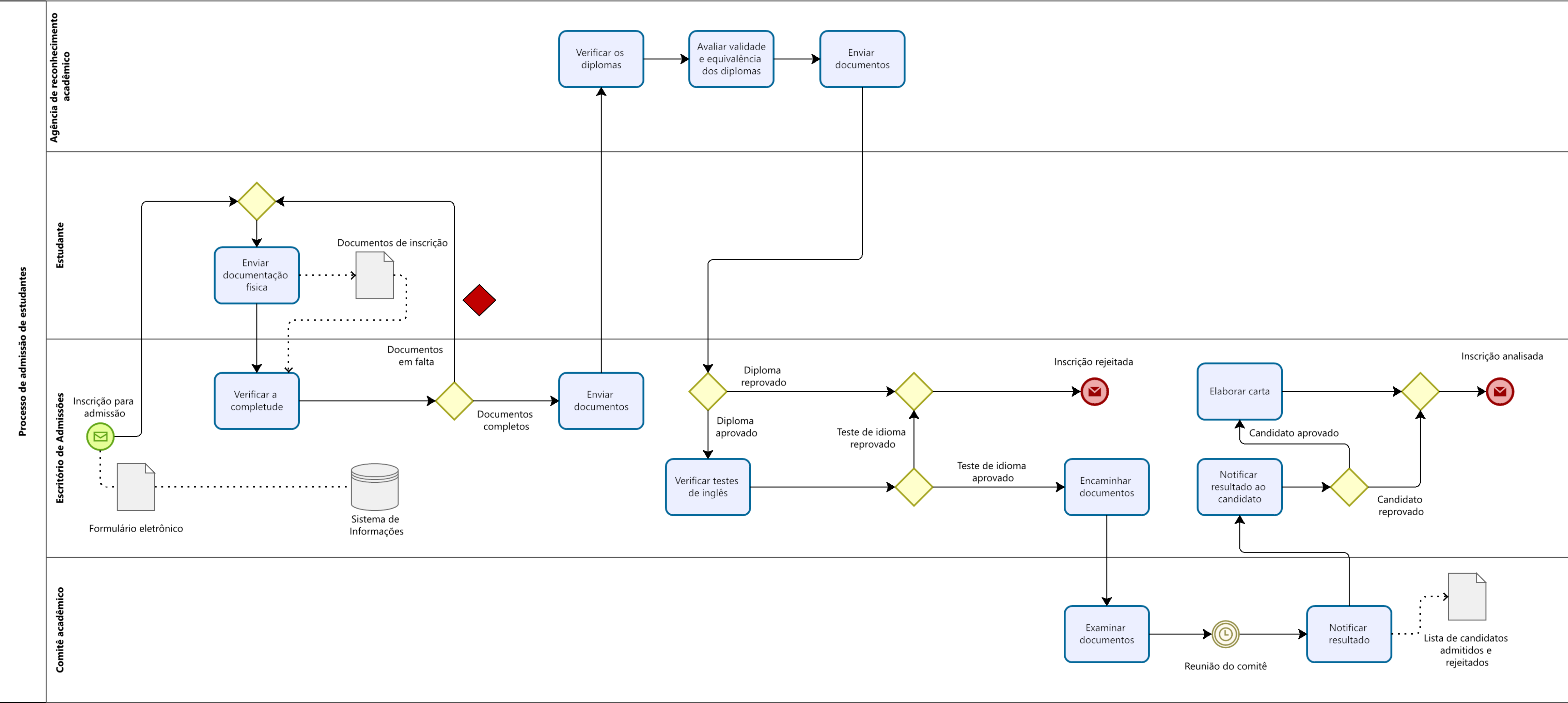


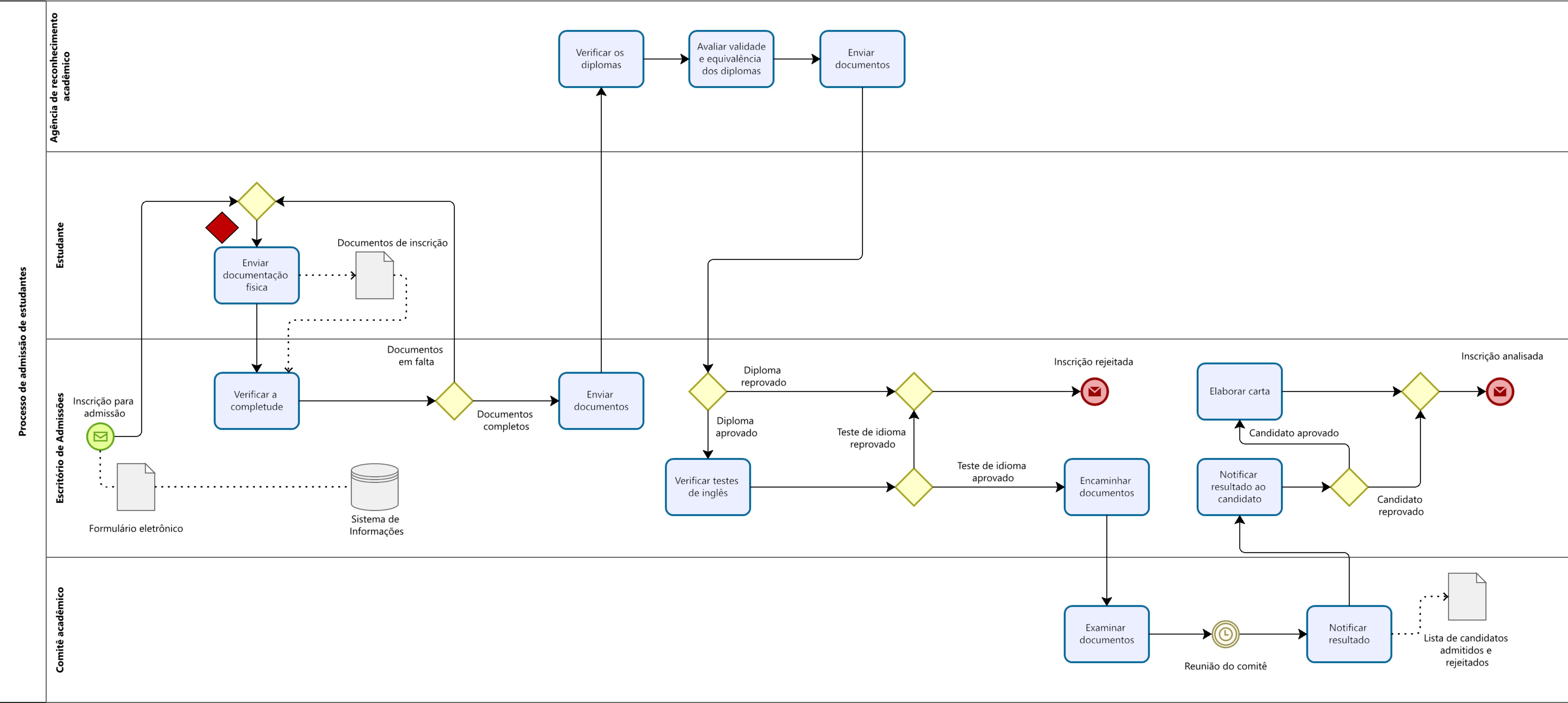


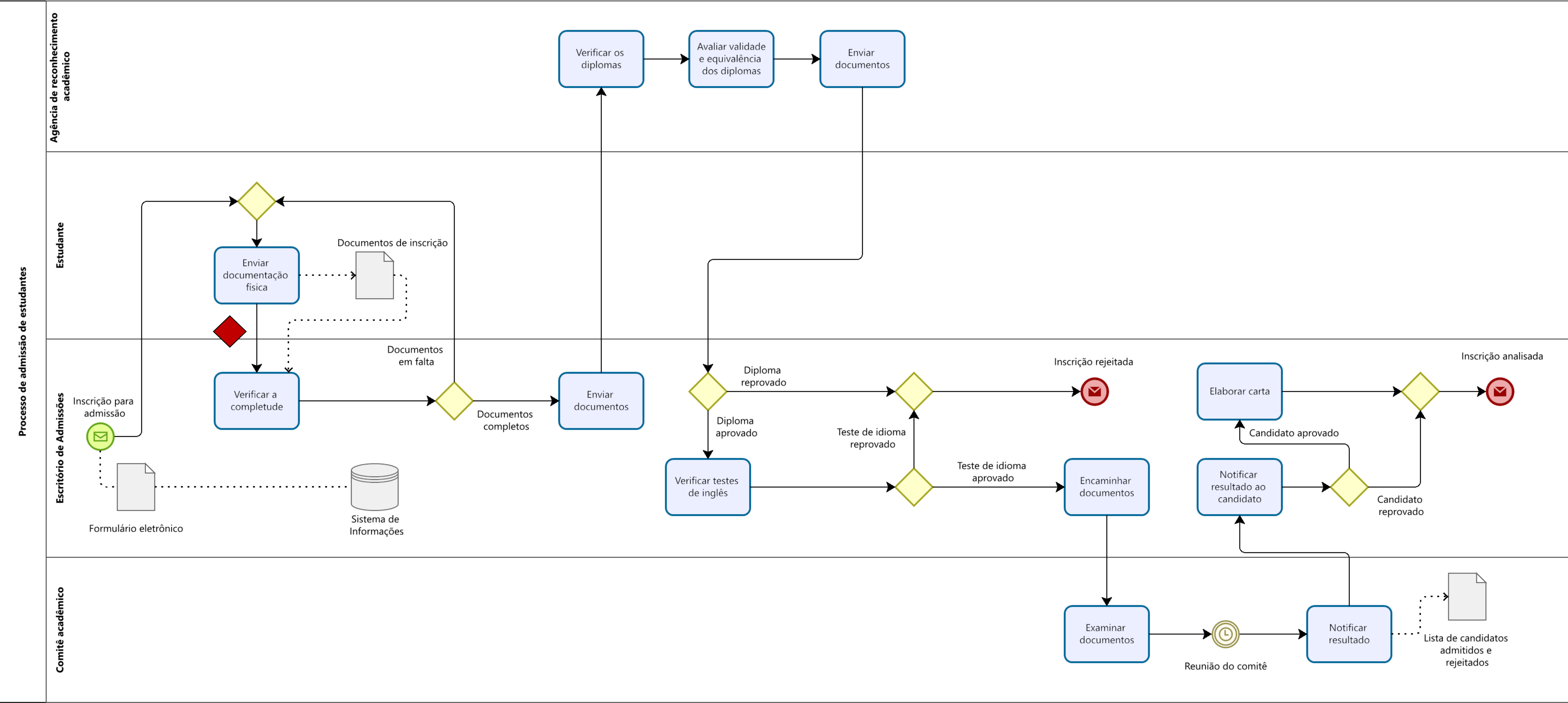


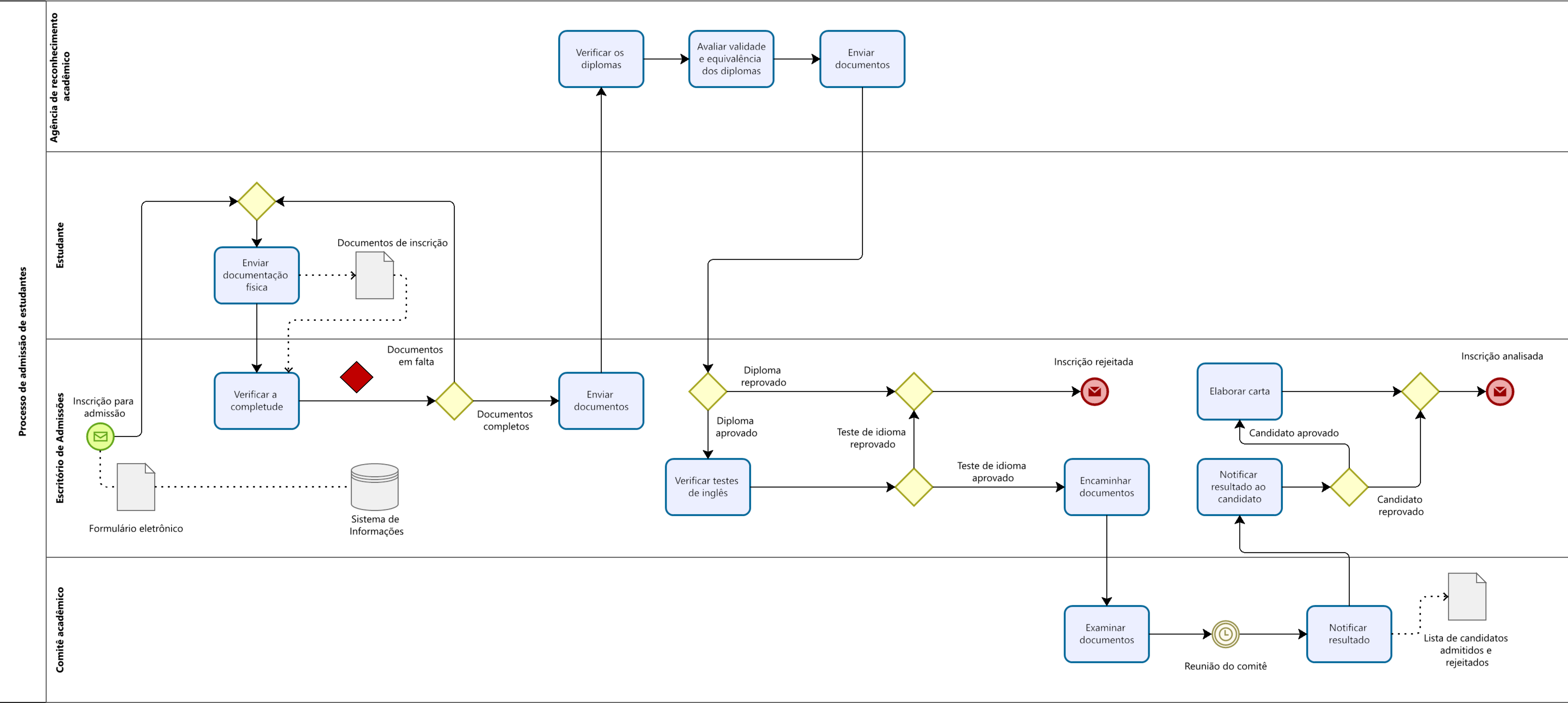


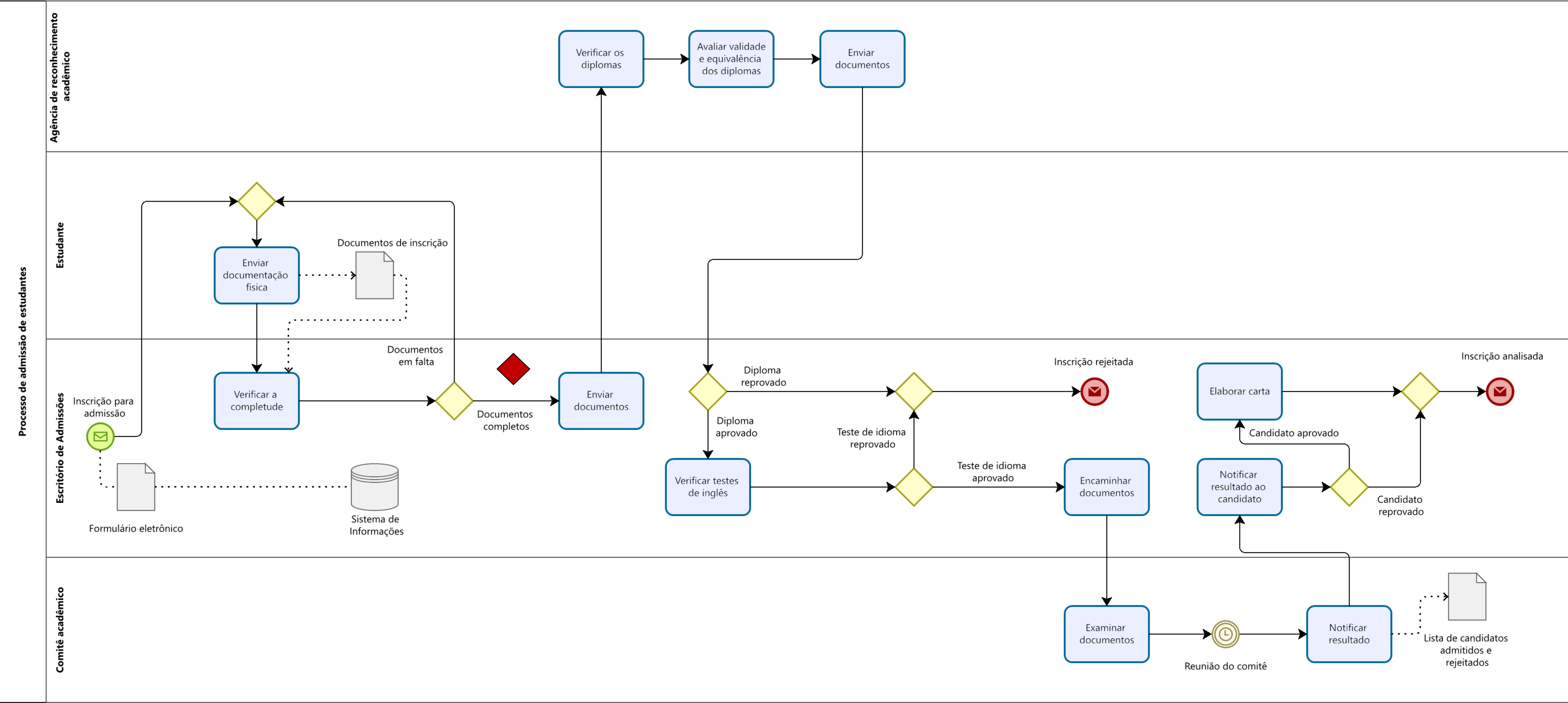


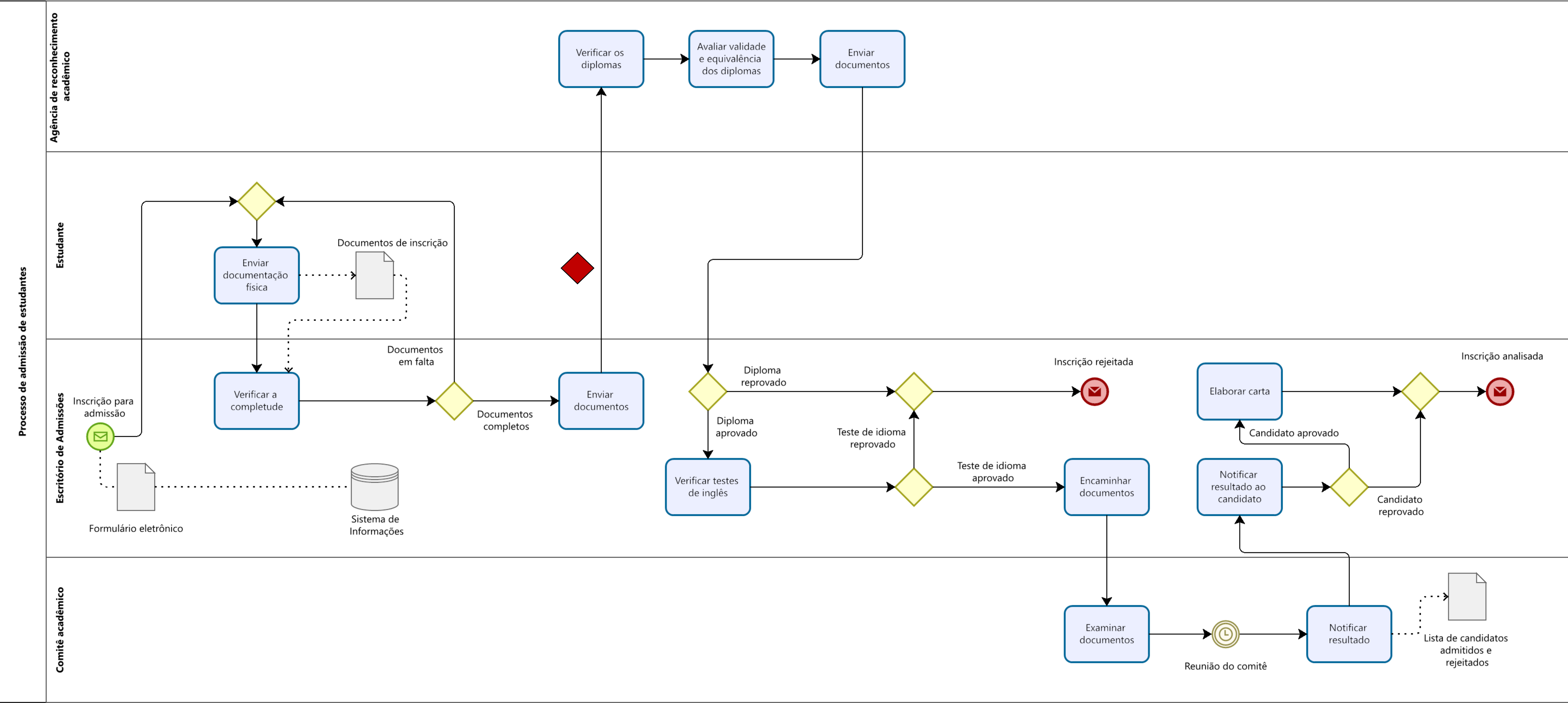


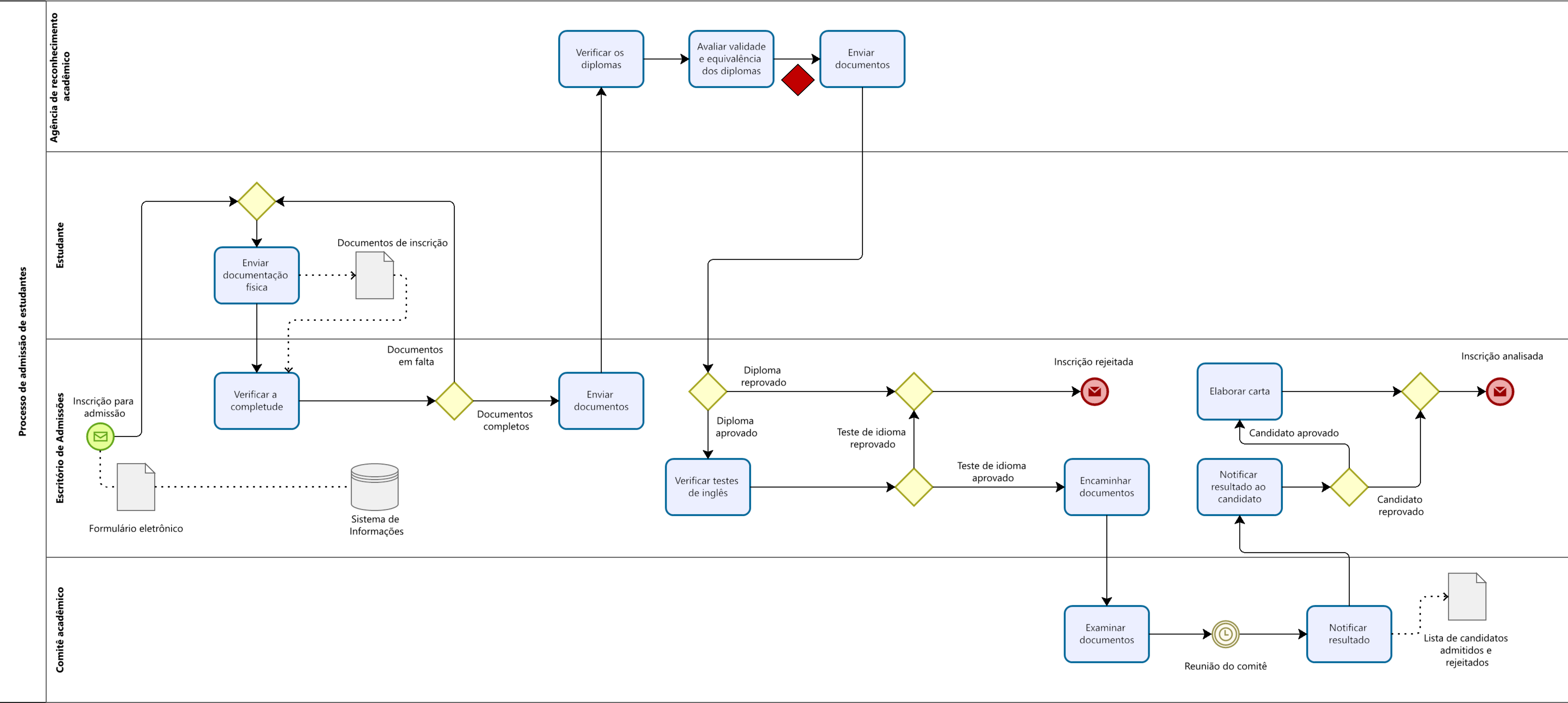


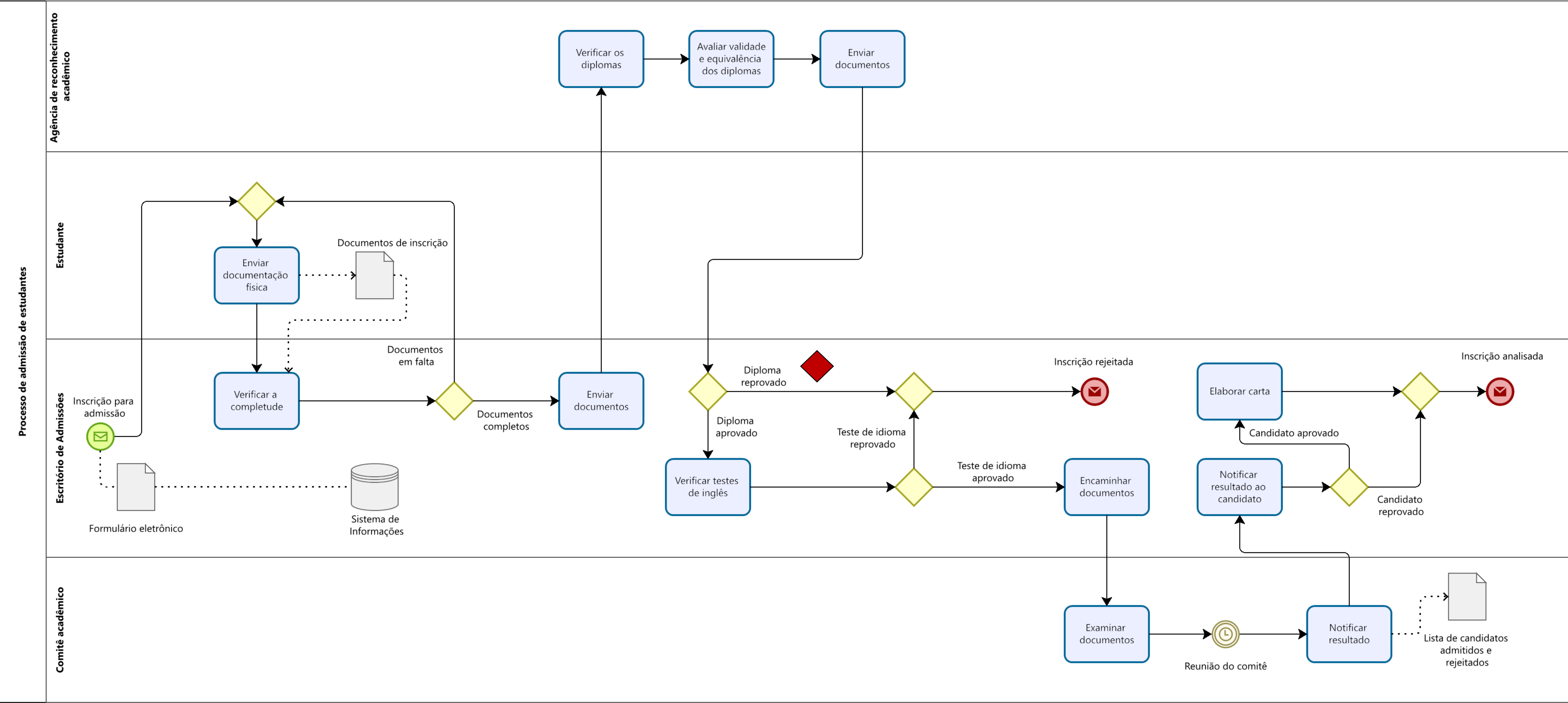


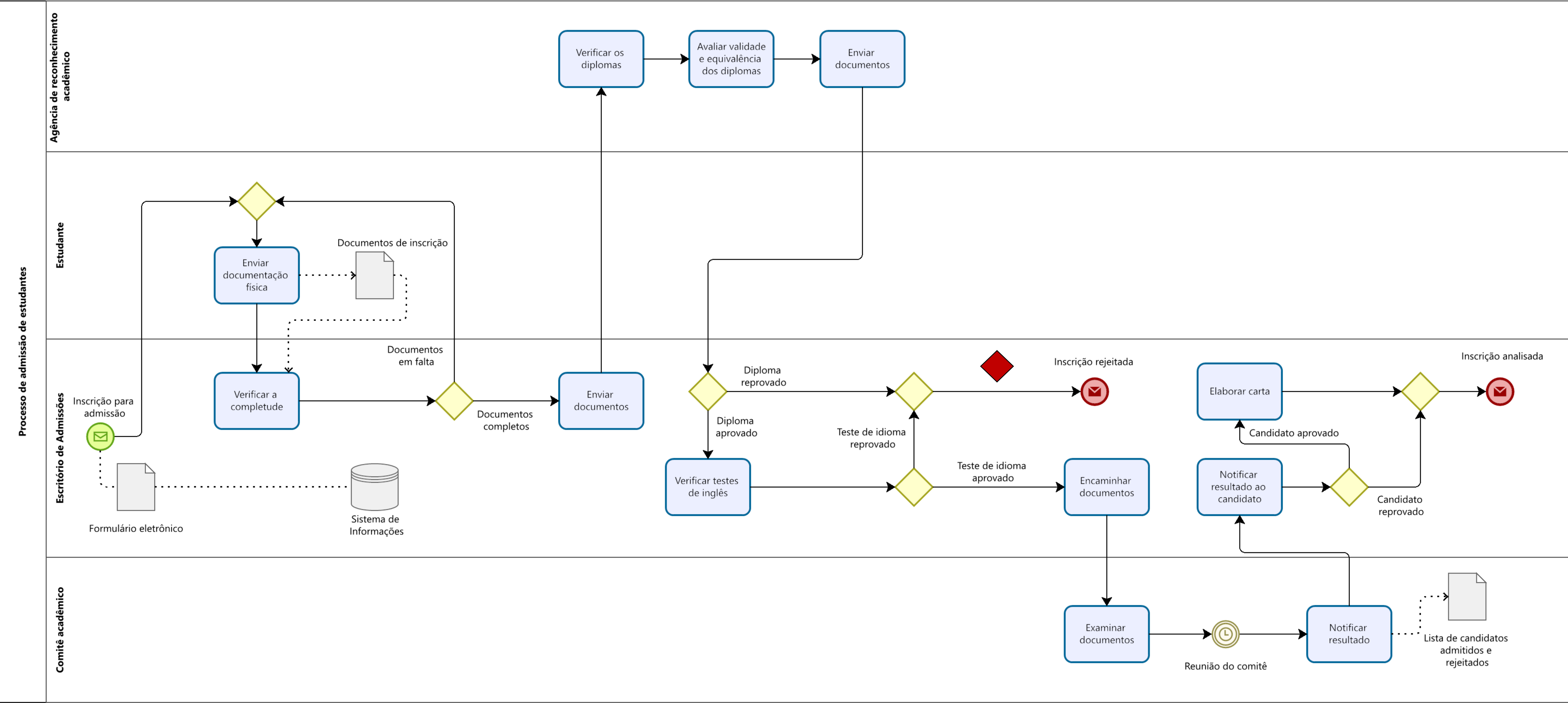


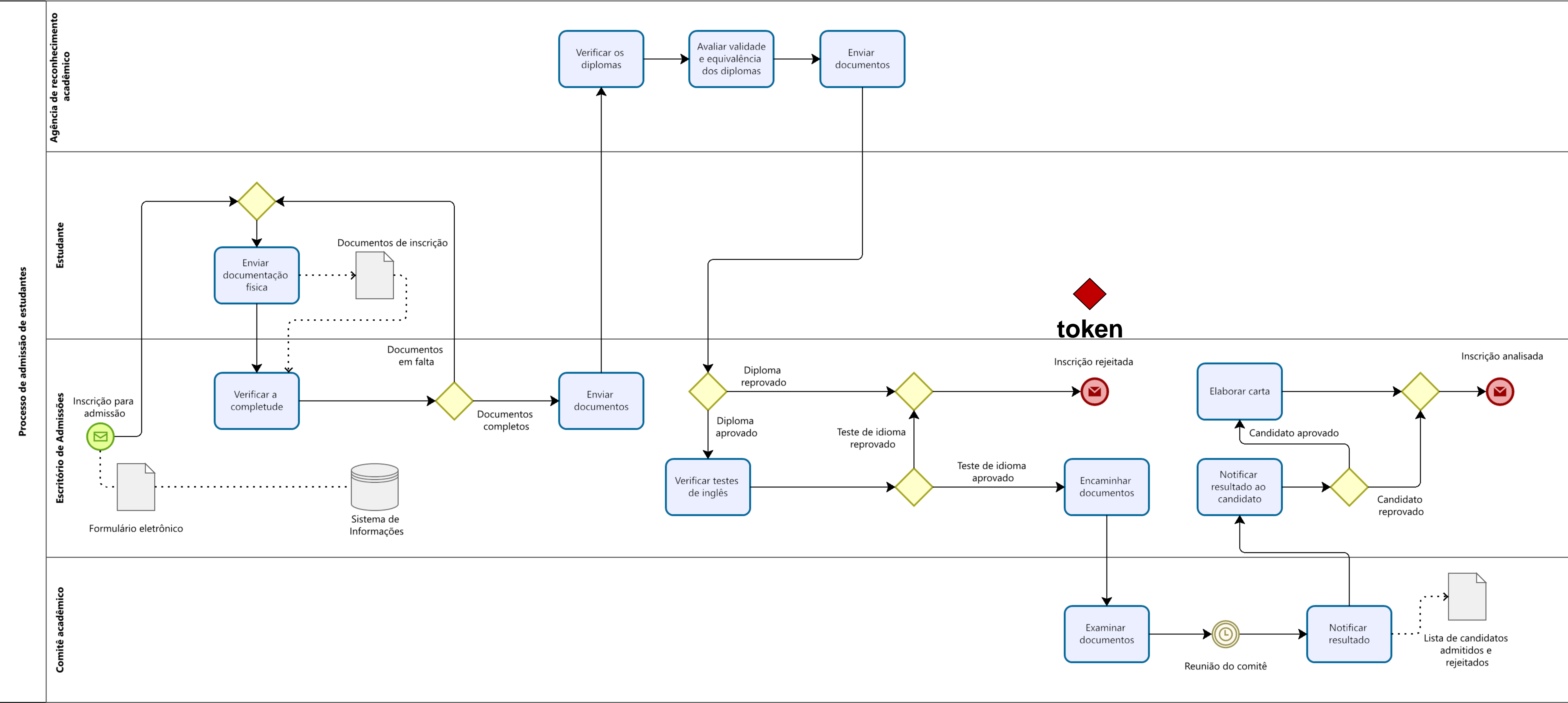












OBRIGADO!



www.ibmec.br

 /ibmec

 ibmec

 @ibmec_oficial

 ibmec

