

# **Common Criteria CC-101 CC Part 1 Basics**

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## **Outline**

- Review
- Goals
- Security Objectives
- Security Requirements
- Security Requirements Types
- Security Environment
- Expressing Security Requirements
- Objects
  - Classes
  - Families
  - Components
- Operations
- TOE Evaluation

## **Review: CC Parts**

- **Part 1: Introduction and General Model**
- **Part 2: Security Functional Requirements**
- **Part 3: Security Assurance Requirements**

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## **CC-101**

### **Previous Presentations:**

- **CC-101 > Introduction**

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## Goals

- Defines general concepts and principles of IT security evaluation
- Presents a general model of evaluation and constructs for:
  - expressing IT *security objectives*
  - selecting and defining IT *security requirements*
  - writing high-level specifications for products and systems

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## Security Objectives, and Security Requirements

### Security Objective:

- A statement of intent to counter identified threats and/or satisfy identified organization security policies and assumptions

### Security Requirements:

- The refinement of the security objectives into a set of security requirements for the product and for the *security environment*
- Meeting the requirements ensure that the product can meet its security objectives

## **Security Requirements Types**

### **Functional Requirement:**

- Define security Behavior of the IT product or system
- Implemented requirements become security functions

### **Security Requirements :**

- For establishing confidence in security functions
  - Correctness of implementation

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## **Security Environment**

- Includes all:
  - Laws
  - Organizational Security Policies
  - Customs
  - Expertise and Knowledge that are determined to be relevant
- Defines the context in which TOE is intended to be used
- Includes threads to sec that are, or are held to be present in the environment

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## Expressing Security Requirements: Objects (1)

Class: Group of families that share a common focus

Family: Group of components that share objectives, but may differ in emphasis or rigor

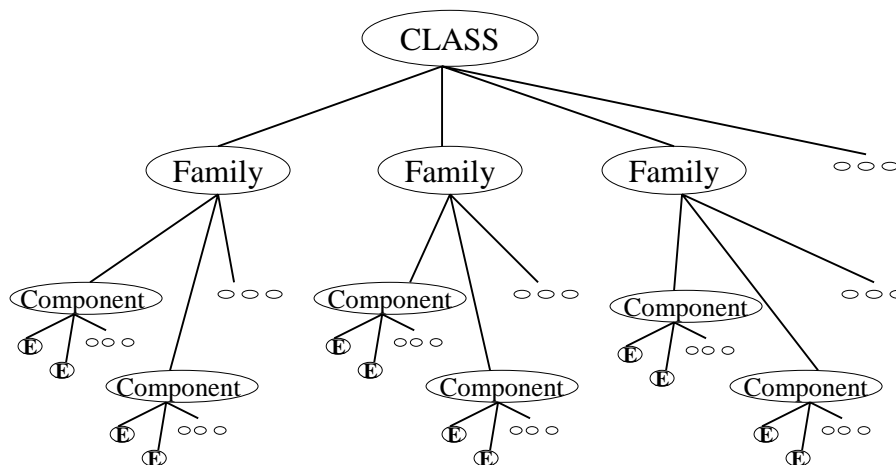
Component:

- Describes a specific set of security requirements
- A set of them within a family maybe ordered to represent increasing strength of security requirement that share a common goal

Element: An indivisible security requirement

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## Expressing Security Requirements: Objects (2)

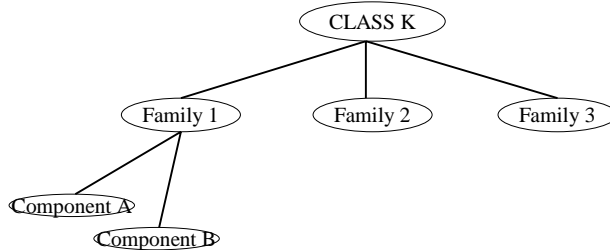


ⓔ = Element

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## Expressing Security Requirements: Objects (3)

### Example

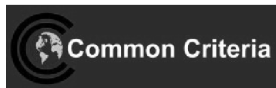


- Class K = Families 1, 2, 3 > Families 1, 2, 3 share a common focus
- Family 1 = Components A, B
  - > Component A, and B share objectives
  - > Component A and B may differ in emphasis or rigor

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## Expressing Security Requirements: Operations (1)

- **CC components may be tailored through the use of permitted operations to satisfy a specific security policy, or counter a specific threat**



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## **Expressing Security Requirements: Operations (2)**

### Permitted Operations

Assignment: fill in parameter specification when component is used

Selection: select item from list given in component and fill in item specification

Iteration: permits use of components more than once with varying operations

Refinement: permits addition of extra detail when the component is used

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## **Expressing Security Requirements: Operations (3)**

### Using Permitted Operations

- *Assignment*: can be performed only on specific components
- *Selection*: can be performed only on specific components
- *Iteration*: can be performed for any component
- *Refinement*: can be performed for any component

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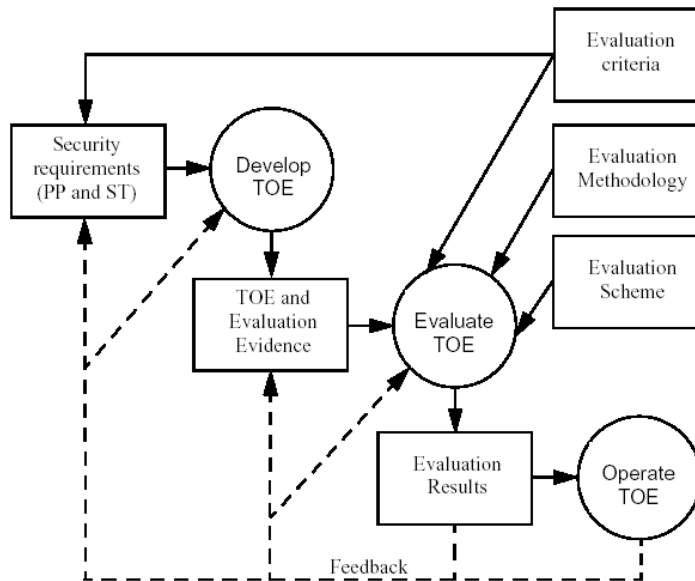
## Expressing Security Requirements: Operations (4)

### Using Permitted Operations

- Each CC component identifies and defines:
  - Any permitted operations of *assignment* and *selection*
  - Circumstances under which these operations may be applied to the component
  - Results of the application of the operation

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## TOE Evaluation



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**CC-101**

**Future Presentations :**

- **CC-101 > CC Part 2**
- **CC-101 > CC Part 3**

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