Common Criteria
CC-101
CC Part 1 Basics

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Outline

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- Goals
- Security Objectives
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- Security Environment
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Review: CC Parts

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

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Previous Presentations:
- CC-101 > Introduction
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

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

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
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 may be ordered to represent increasing strength of security requirements that share a common goal

**Element:** An indivisible security requirement

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Expressing Security Requirements:
Objects (2)

![Diagram of security requirements objects]
Expressing Security Requirements: Objects (3)

Example

```
CLASS K

Family 1          Family 2          Family 3
Component A      Component B
```

- 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

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
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

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
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

TOE Evaluation

Evaluation criteria
Evaluation Methodology
Evaluation Scheme
Evaluation Results
Operate TOE
Feedback
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Future Presentations:
• CC-101 > CC Part 2
• CC-101 > CC Part 3