Best Security Practices: An Overview

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Agenda

- Context
- Best Security Practices (BSPs)
- Security Process Framework (SPF)
- BSP Life Cycle
- Conclusion

Context

- Security requirements are implemented by several means:
  - *Technical*: software, hardware (i.e., IT)
  - *Physical*: barriers, locks, etc.
  - *Administrative*: the actions and practices of people

  Best security practices (BSPs) fall under the last-named
- Good security practices are the *foundation* of security

A Best Security Practice (BSP) Is:

- **A human practice**; i.e., a repeated or customary method used by people to perform some process
- **Security-related**; i.e., plays a part in protecting an organization's information or operations
- **Shown by experience to be effective** in performing some security process; the result of operational experience
- **Among the most** effective of those existing practices used to perform a given security process

- **Not** an IT security mechanism
- **Not** a business practice, though it supports the organization's operations
- **Not** a best *possible* practice but a best *existing* practice; **not** the result of armchair theorizing
- **Not** necessarily *the single* best existing practice of a particular sort

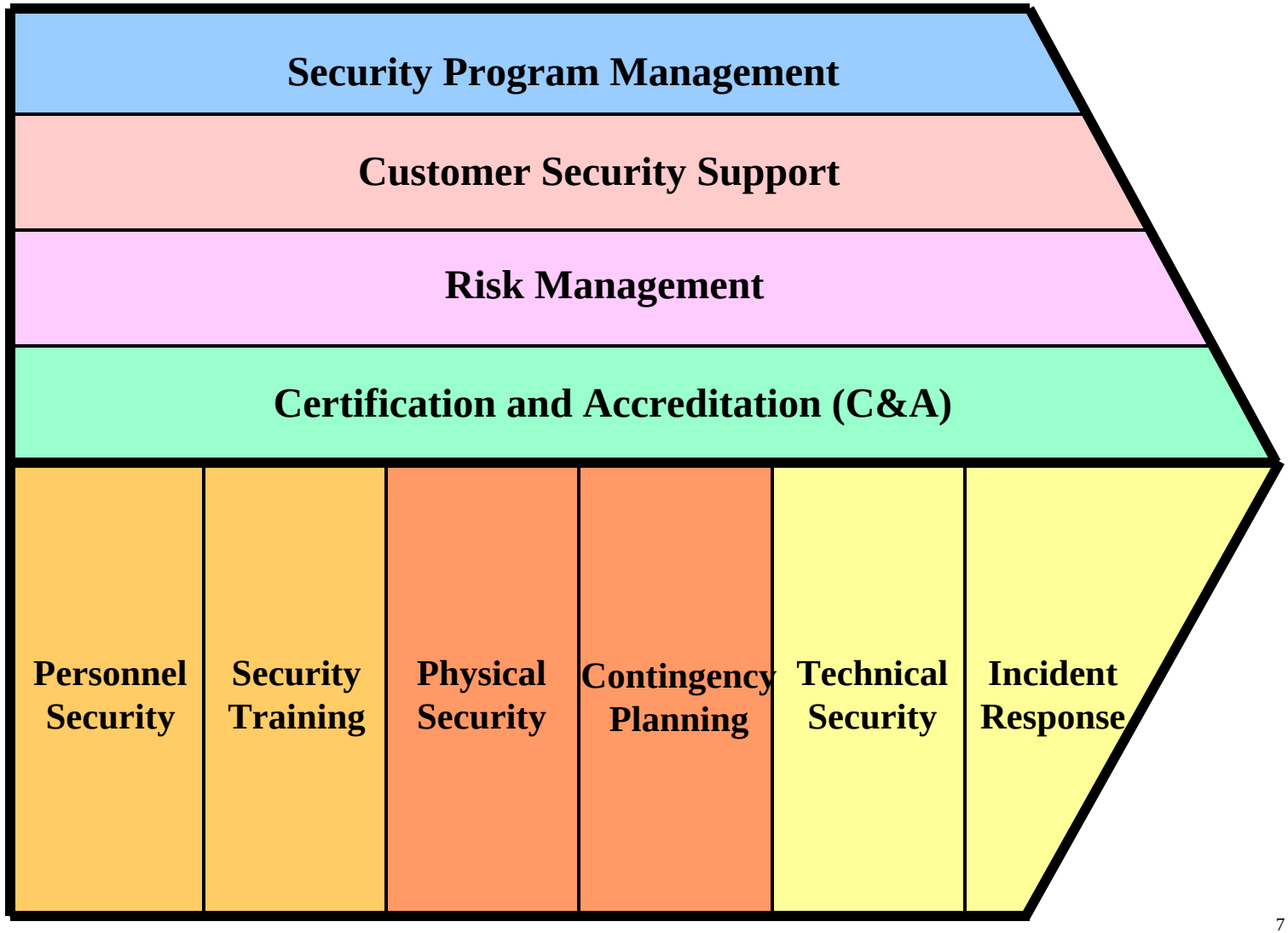
Best Security Practices, 2

- BSP reuse leverages security knowledge
- Knowledge Management (KM) techniques apply to BSP sharing
- KM experience indicates that expert-novice interaction is needed for knowledge transfer to occur
- BSPs may be of varying levels of goodness

Security Process Framework (SPF), 1

- Facilitates the sharing and management of best practices
- Is closely related to the notion of a **security program**:
  - A comprehensive set of program areas (e.g., risk management, personnel security, security training) that together guide an organization's actions to protect its information resources
  - Each program area is a cluster of related security sub-processes
- Together the program areas and their sub-processes provide an **SPF--**a structure of security processes used to categorize BSPs

SPF, 2: The SPF's 10 Program Areas



SPF, 3: Complications

- The SPF's program areas have a life cycle
- Organizational security program (OSP) vs. system security program (SSP)
  - BSPs useful in developing and operating an OSP differ from those useful for an SSP
  - The same program areas pertain to both OSP and SSP
  - The life cycles of an OSP and of an SSP are distinct: the Operate phase of the OSP life cycle guides all phases of the SSP

SPF, 4: High-Level Structure

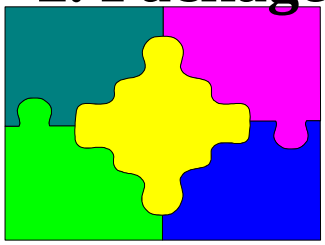
SPF, Part 1: ORGANIZATIONAL SECURITY PROGRAM				
Security Process Areas	*Life Cycle Phases*			
	Initiate	Develop	Operate	Terminate
Security Program Mgmt				
. . .				
Incident Response				

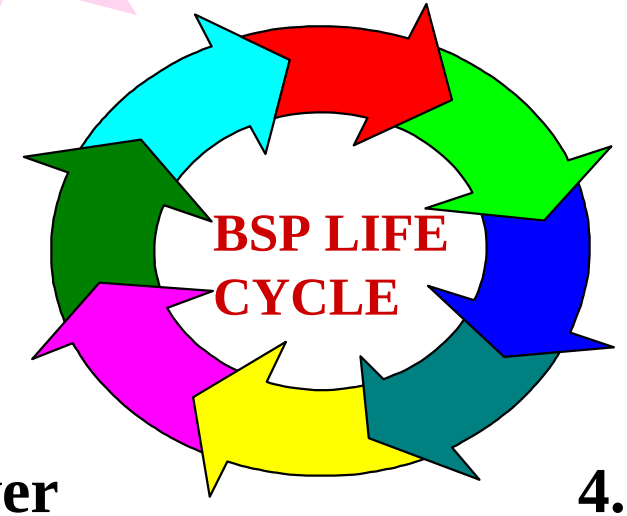
SPF, Part 2: INFORMATION SYSTEM SECURITY				
Security Process Areas	*Life Cycle Phases*			
	Initiate	Develop	Operate	Terminate
Security Program Mgmt				
. . .				
Incident Response				

BSP Life Cycle, 1

1. Identify

2. Package

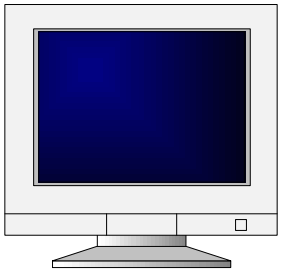




6. Improve

3. Evaluate

5. Deliver



4. Adopt

BSP Life Cycle, 2: Packaging

1. Identification Data

- Number & *Name*
- Version
- Date Adopted
- Approving Authority
- *Source of BSP*
- Level of BSP
- Framework & Process Supported
- *Point of Contact*

2. What This BSP Does

- *Purpose of BSP*
- *Requirements Addressed by BSP*
- *Success Stories*

3. What This BSP Is

- *Description of BSP*
- Relations to Other BSPs

4. How To Use This BSP

- Implementation Guidance
- Resource Estimates
- Performance Goals (Metrics)
- Tools
- Training Materials

◆ Appendices

BSP Life Cycle, 3: Evaluating

- **Preliminary evaluation criteria:**
  - **BSP contributors are who they claim to be**
  - **Mandatory sections are complete**
  - **BSP seems unlikely to cause harm**
- **Evaluation criteria:**
  - **Effective in performing some security process**
  - **Reduces costs**
  - **Saves time**
  - **Is easy to implement**
  - **Consistent with other BSPs**
  - **Reveals no vulnerabilities**

Conclusion

- The sharing of BSPs helps address the critical shortage of skilled security practitioners
- In sharing and managing BSPs:
  - Use a security process framework (SPF)
  - Employ a standard BSP format
  - Support the six BSP life-cycle functions