A Criteria Catalog Based Methodology for Analyzing Service Management Processes

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Motivation

- User Service Center (USC) of BMW Group:
  "How good are our business processes?"
  "Where do we need to improve?"

- Not BMW-specific question but common problem in Business Process Reengineering (BPR)

- Traditional Approaches:

  – Rethinking Processes

    - Evaluation and redesign according to general BPR principles

    - **Problem:** High effort invested in "reinventing the wheel"

  – Benchmarking

    - Comparison with processes of other companies/institutions

    - **Problem:** Suitable partner needed

  → Difficult, costly

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Idea / Approach

- "Best Practice" collections like ITIL or eTOM offer guidelines

- **Basic Idea**: Benchmark against "best practices"

- **Problem:** No direct comparison possible

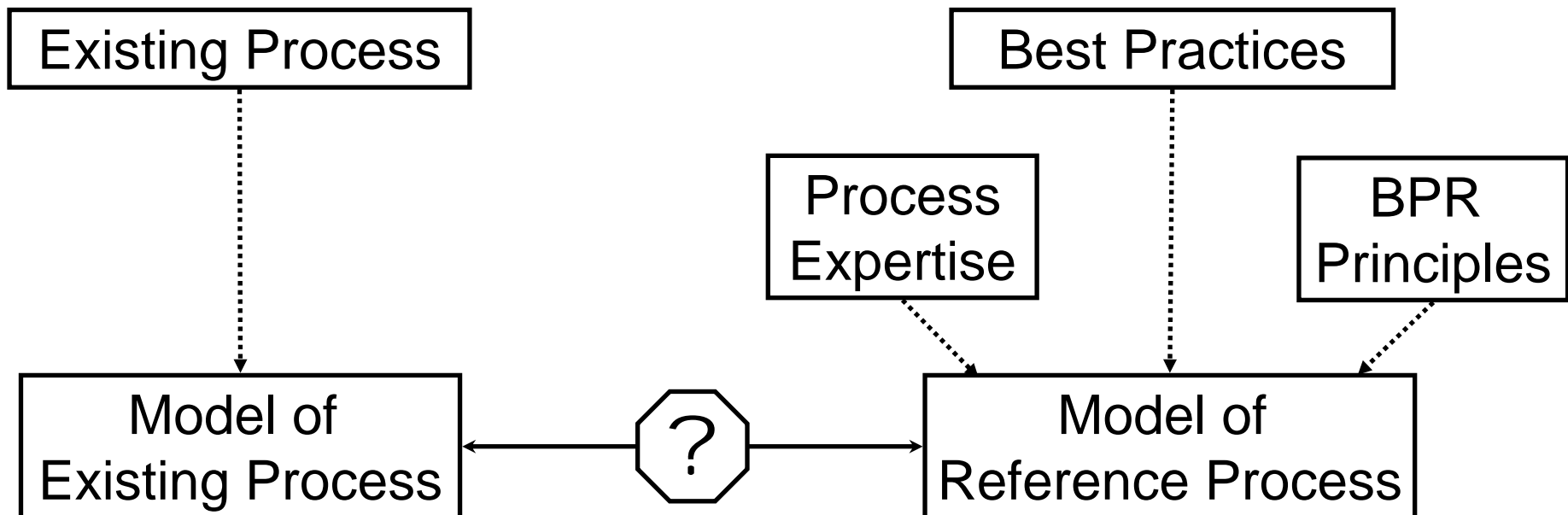| Existing Process | ← ? → | Best Practices |

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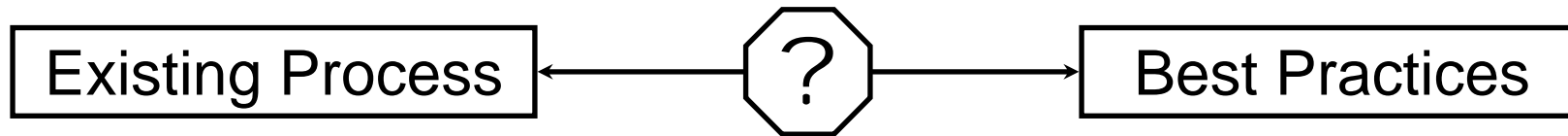
Idea / Approach

→ Define reference process, model existing process

• **Problem:** Still no easy comparison possible

• **Wanted:** Easy-to-follow method for comparison

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Idea / Approach

→ Provide criteria catalog as comparison tool

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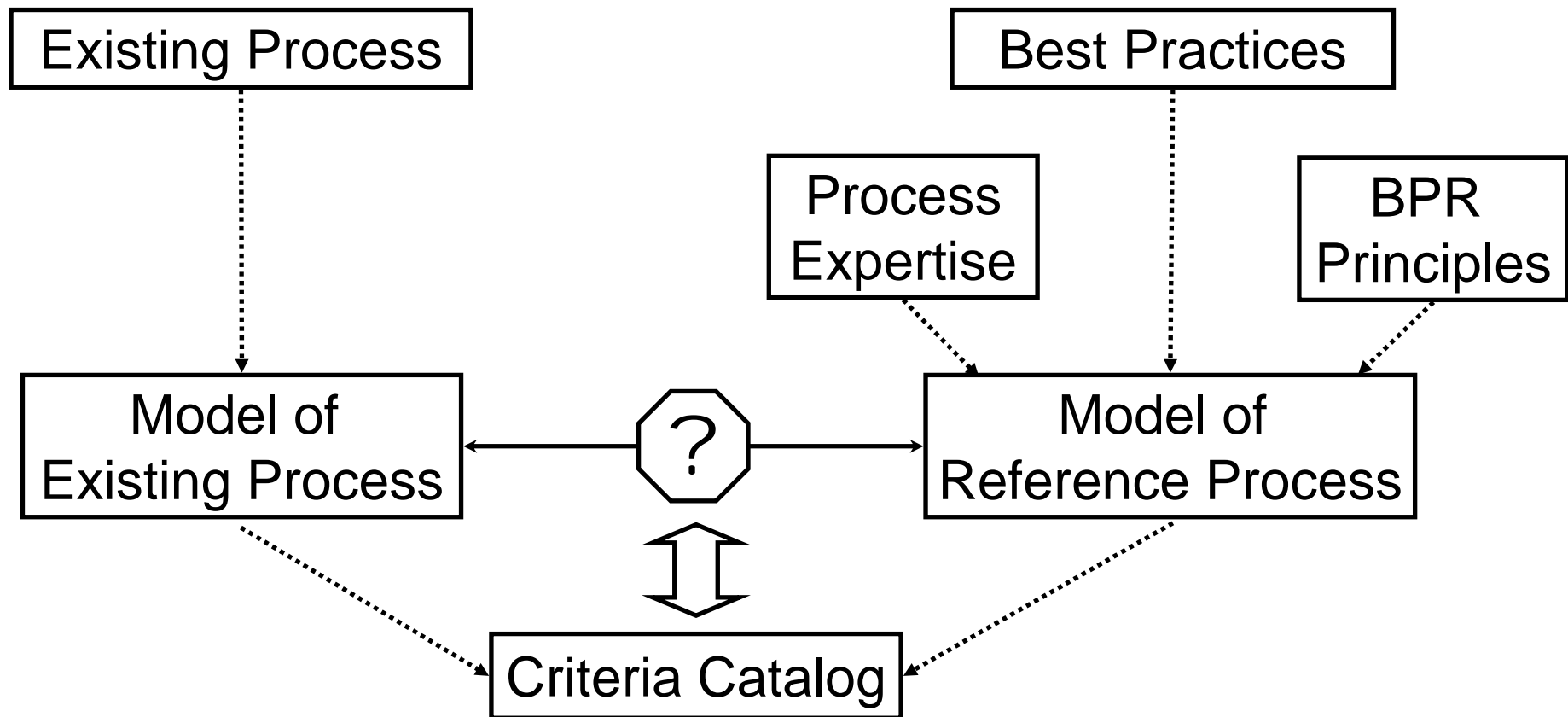
Criteria Catalogs

Goal:

Evaluate Incident Management (root criterion) on a scale of 0 to 3
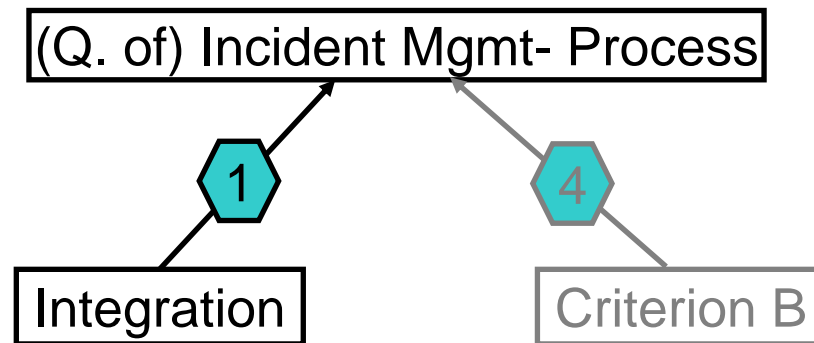
(Q. of) Incident Mgmt- Process

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Criteria Catalogs

Building the catalog:
- Divide into evaluation of suitable sub-criteria

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Criteria Catalogs

Building the catalog:
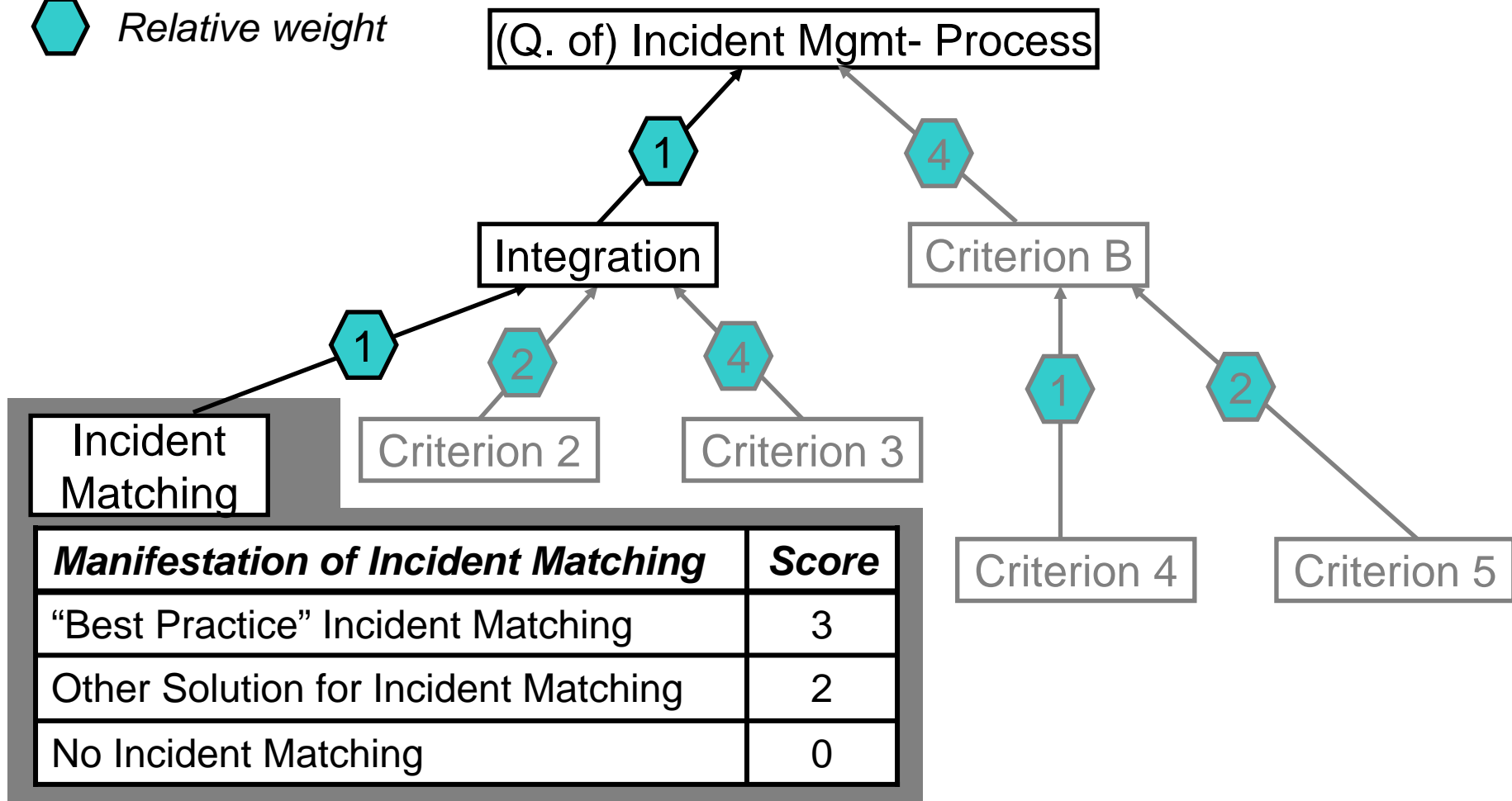- Continue until no further division appropriate (leaf criterion)

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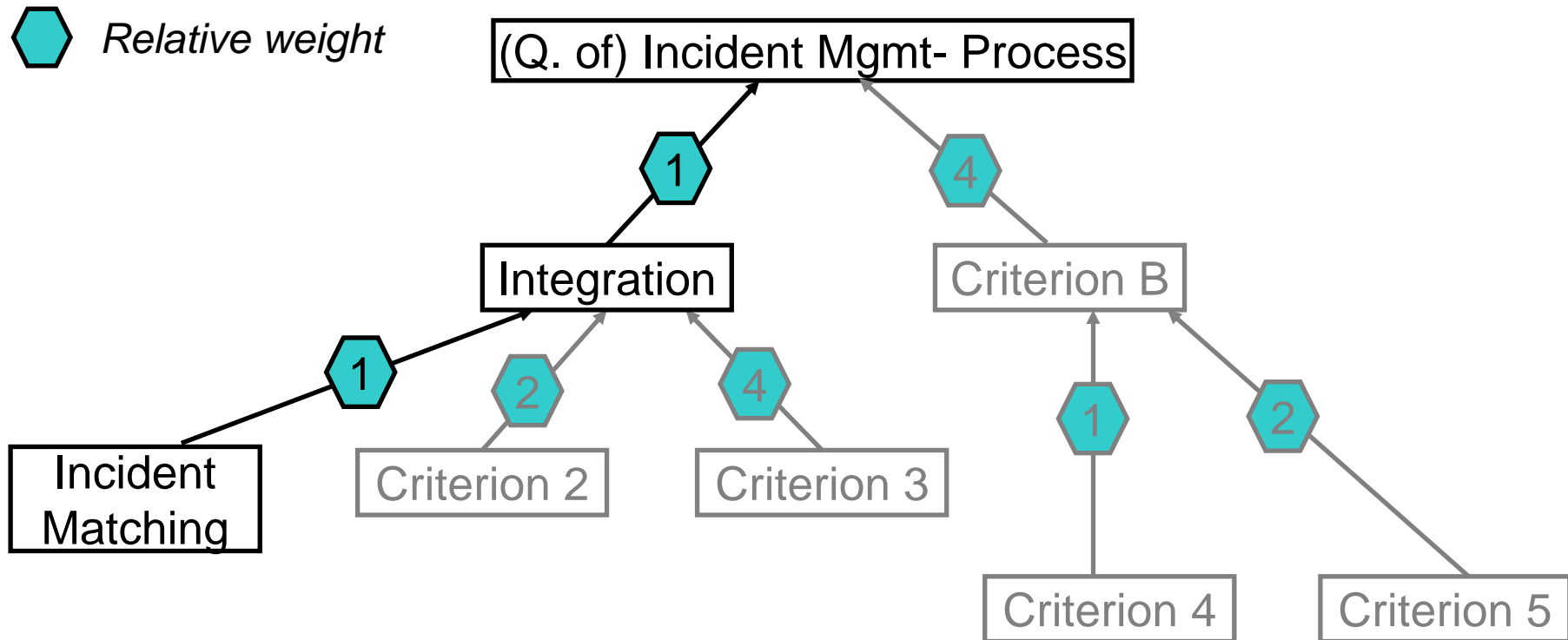
Criteria Catalogs

Building the catalog:
- Provide leaf criteria with concise rating scheme

Relative weight

(Q. of) Incident Mgmt- Process

Integration

Criterion B

Incident Matching

Criterion 2

Criterion 3

Criterion 4

Criterion 5

Manifestation of Incident Matching	Score
"Best Practice" Incident Matching	3
Other Solution for Incident Matching	2
No Incident Matching	0

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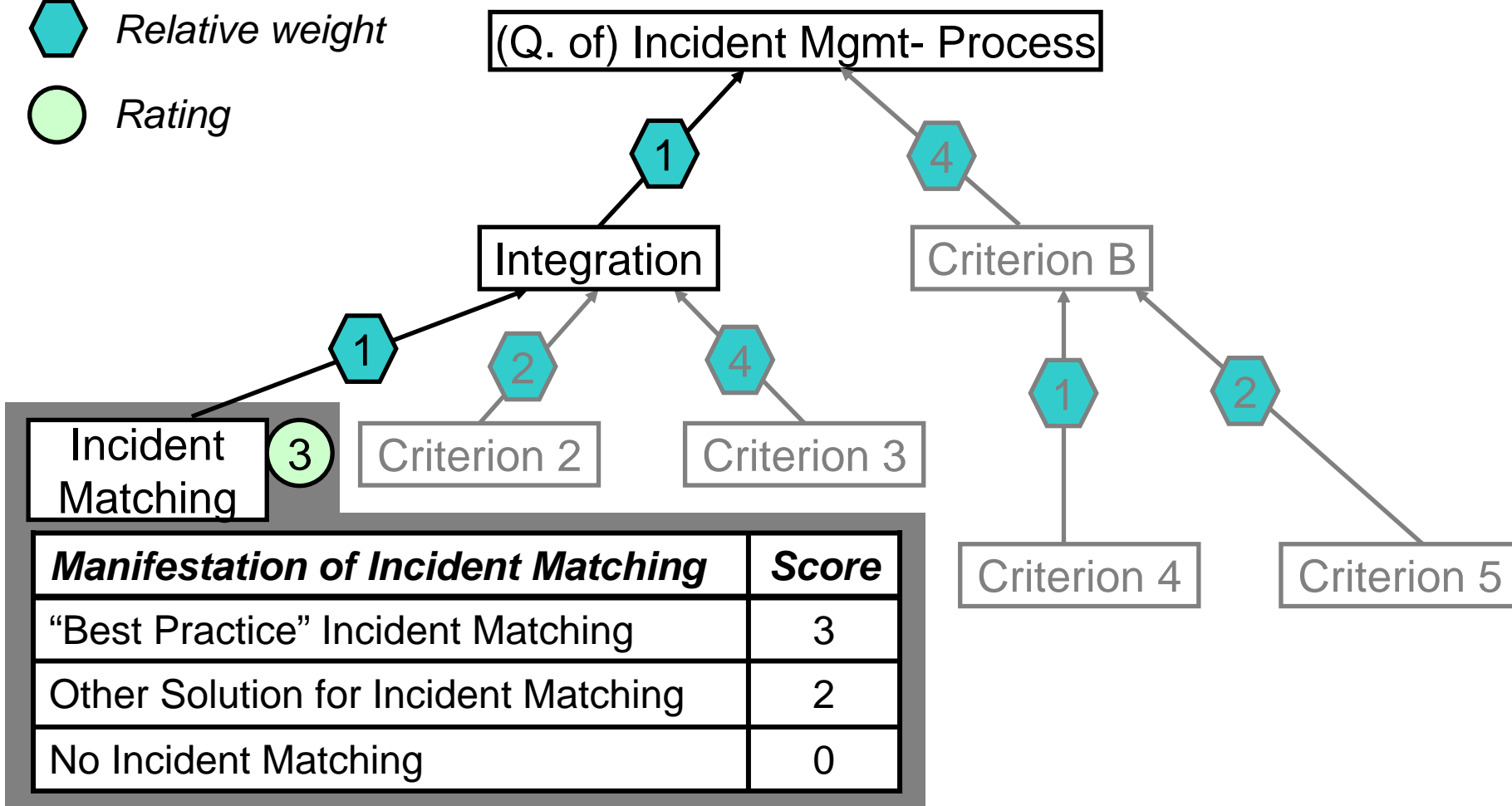# Criteria Catalogs

Applying the catalog:
- Rate leaf criteria according to specified scheme

Manifestation of Incident Matching	Score
"Best Practice" Incident Matching	3
Other Solution for Incident Matching	2
No Incident Matching	0

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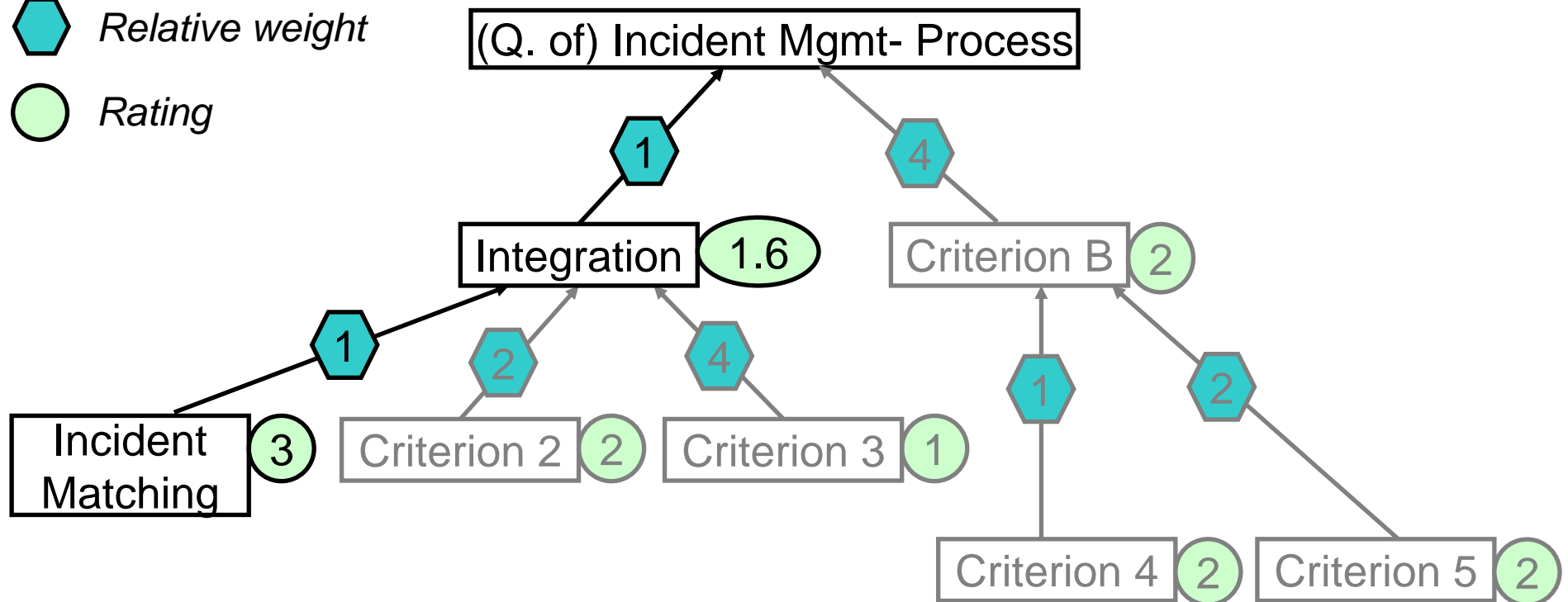*Applying the catalog:*
- Rate leaf criteria according to scheme

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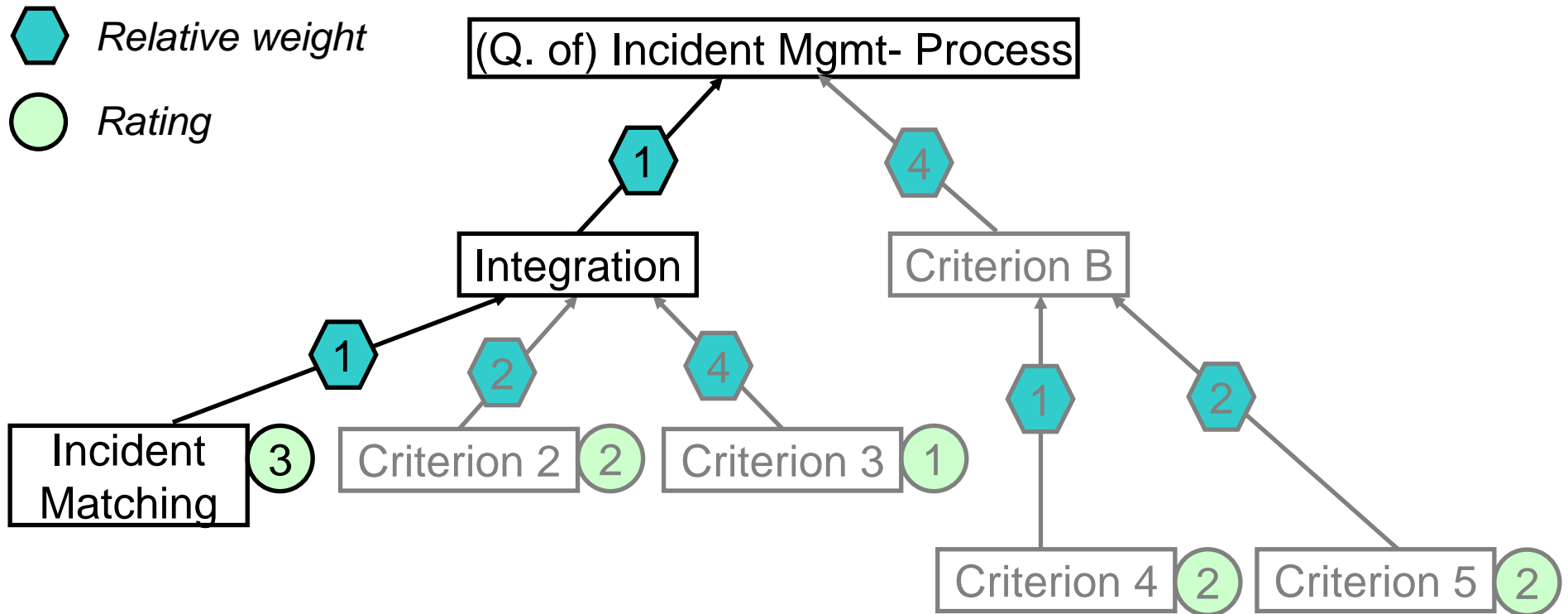
Criteria Catalogs

Applying the catalog:
- Rate inner-node criteria with weighted average of sub-criteria ratings

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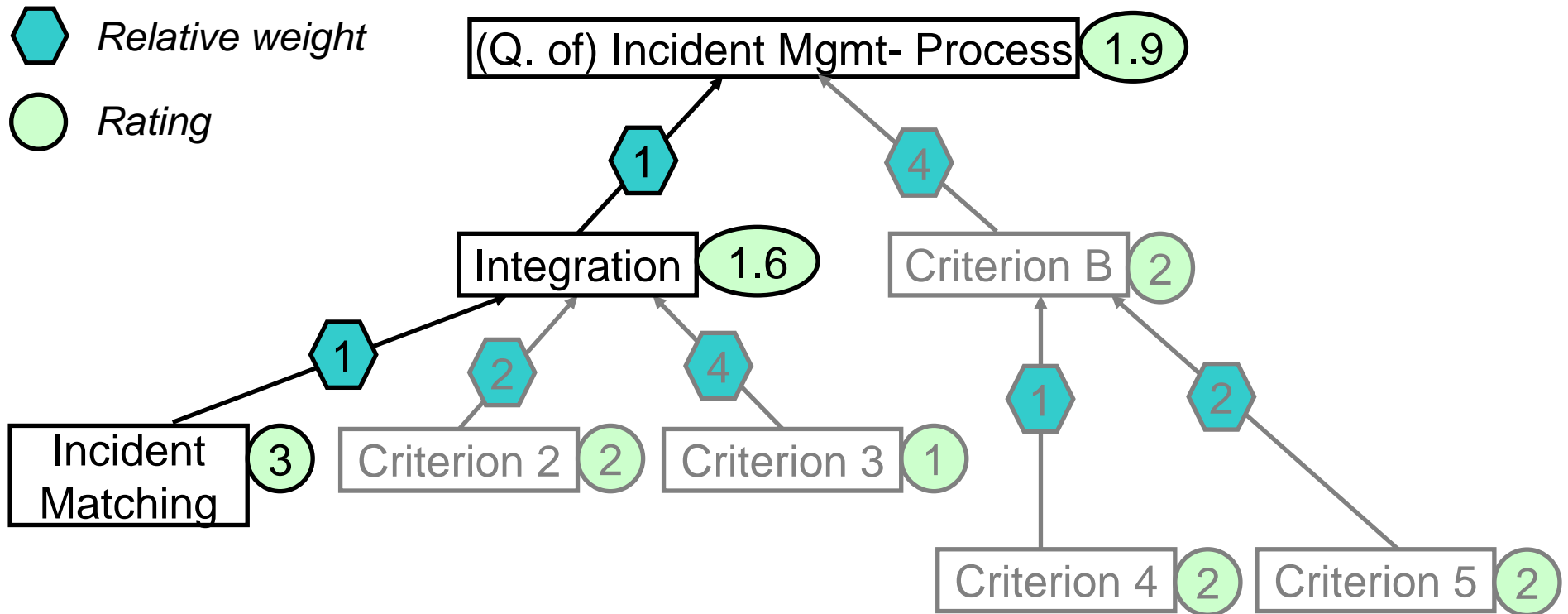
Applying the catalog:
- Continue until root criterion reached

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Scenario independent

Scenario dependent

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Scenario independent

Best Practice
Guidelines (e.g. ITIL)

Define
Reference Process

Derive
Criteria

Model of
Reference Process

Generic Catalog

Scenario dependent

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Methodology for Evaluating Service Mgmt. Processes

Scenario independent

Best Practice
Guidelines (e.g. ITIL)

Define
Reference Process

Model of
Reference Process

Derive
Criteria

Generic Catalog

Scenario
specifics

Adapt
Catalog

Scenario-specific
Catalog

Model of
Existing Process

Apply
Catalog

Result of
Evaluation

Suggest
Improvements

Scenario dependent

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- Create workflow model

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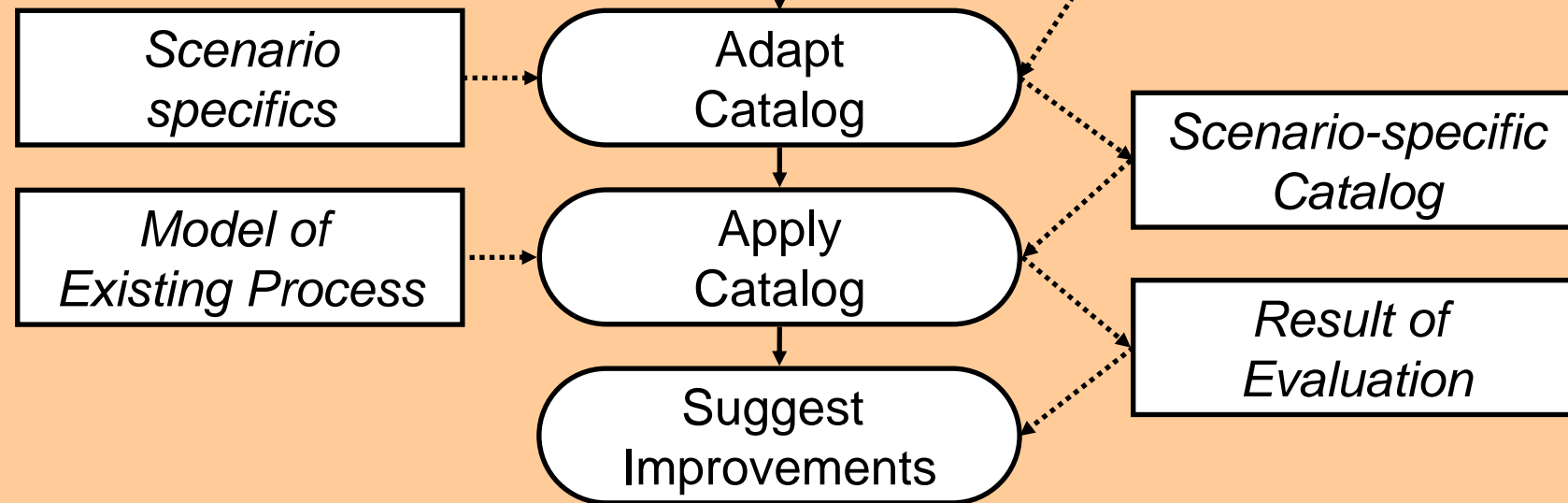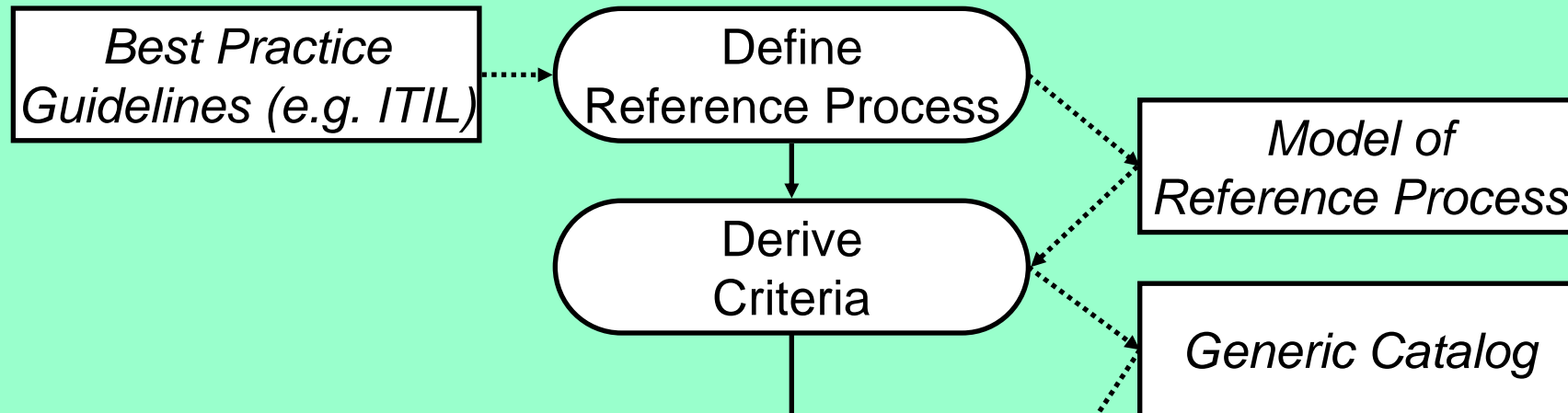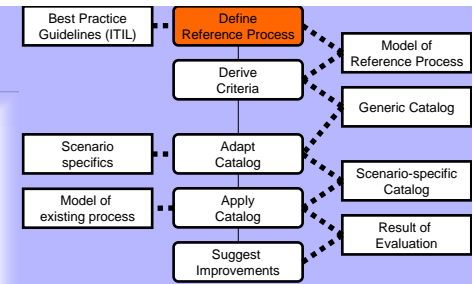
Define Reference Process

- Create workflow model

- Determine agents and resources involved

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Define Reference Process

| Best Practice Guidelines (ITIL) | Define Reference Process | Model of Reference Process |
Derive Criteria	Generic Catalog
Scenario specifics	Adapt Catalog	Scenario-specific Catalog
Model of existing process	Apply Catalog	Result of Evaluation
Suggest Improvements

- Create workflow model

- Determine agents and resources involved

- Document information flow and interfaces to other processes

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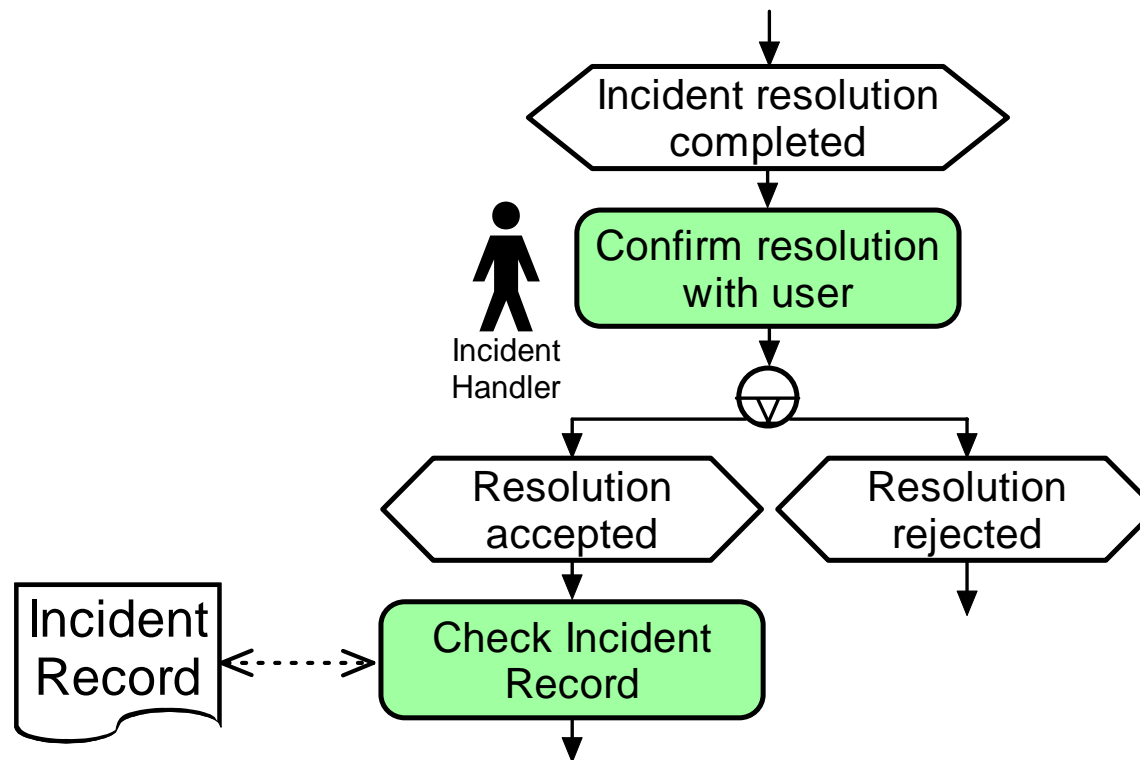
Incident Management Process

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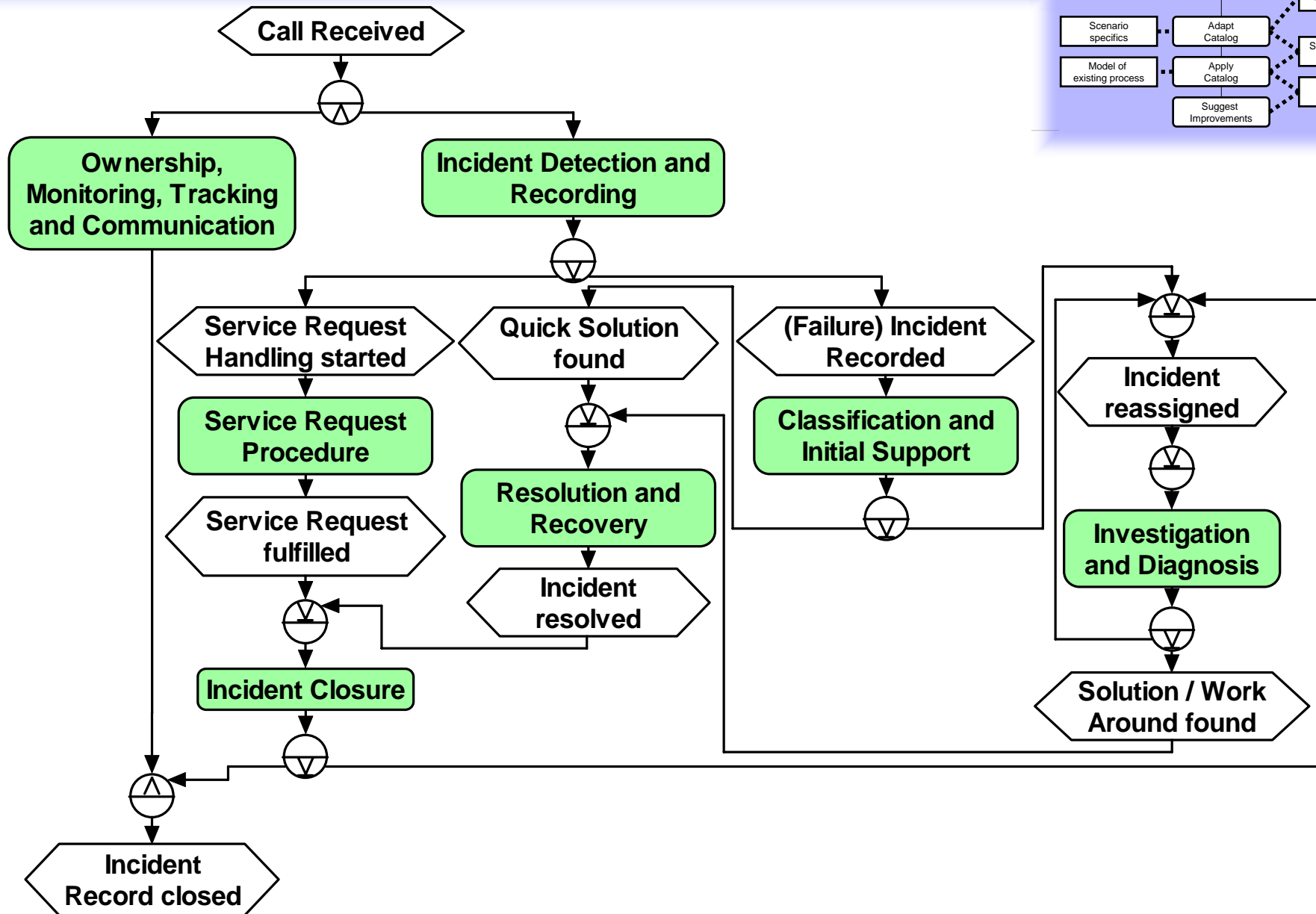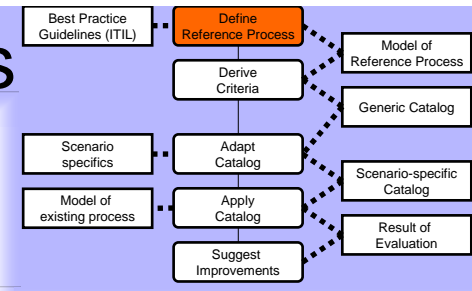
Deriving Criteria: Top Level

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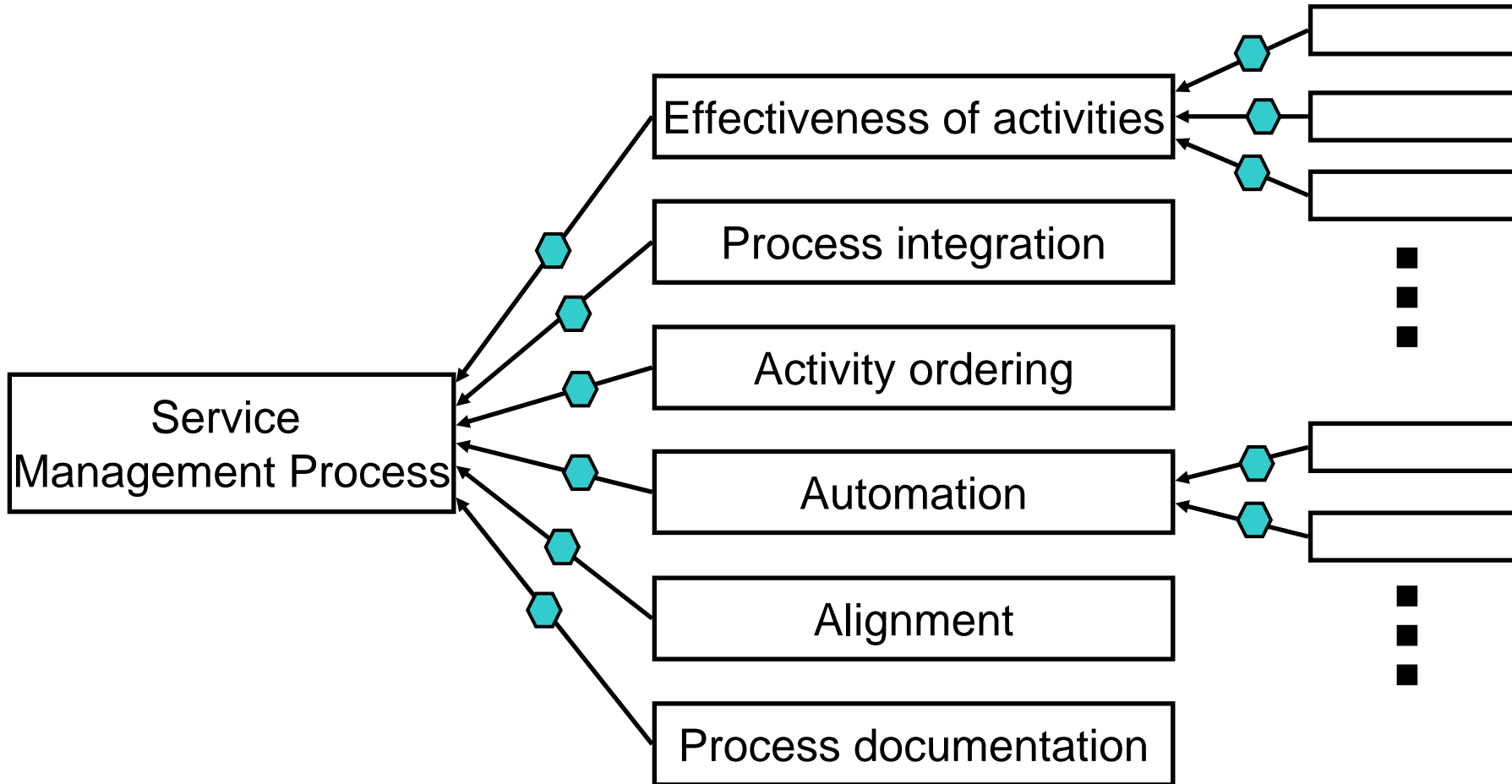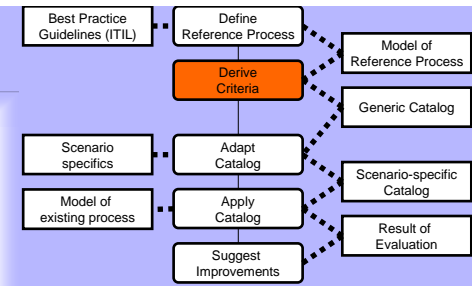
Deriving Criteria: Leaf Criteria

- Analyze reference process

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Deriving Criteria: Leaf Criteria

Best Practice Guidelines (ITIL)	Define Reference Process		Model of Reference Process
	Derive Criteria		Generic Catalog
Scenario specifics	Adapt Catalog		Scenario-specific Catalog
Model of existing process	Apply Catalog		Result of Evaluation
	Suggest Improvements		

- Derive characteristics

⇒ Activity "Confirm resolution with user"
is executed unconditionally

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Deriving Criteria: Leaf Criteria

- Derive characteristics
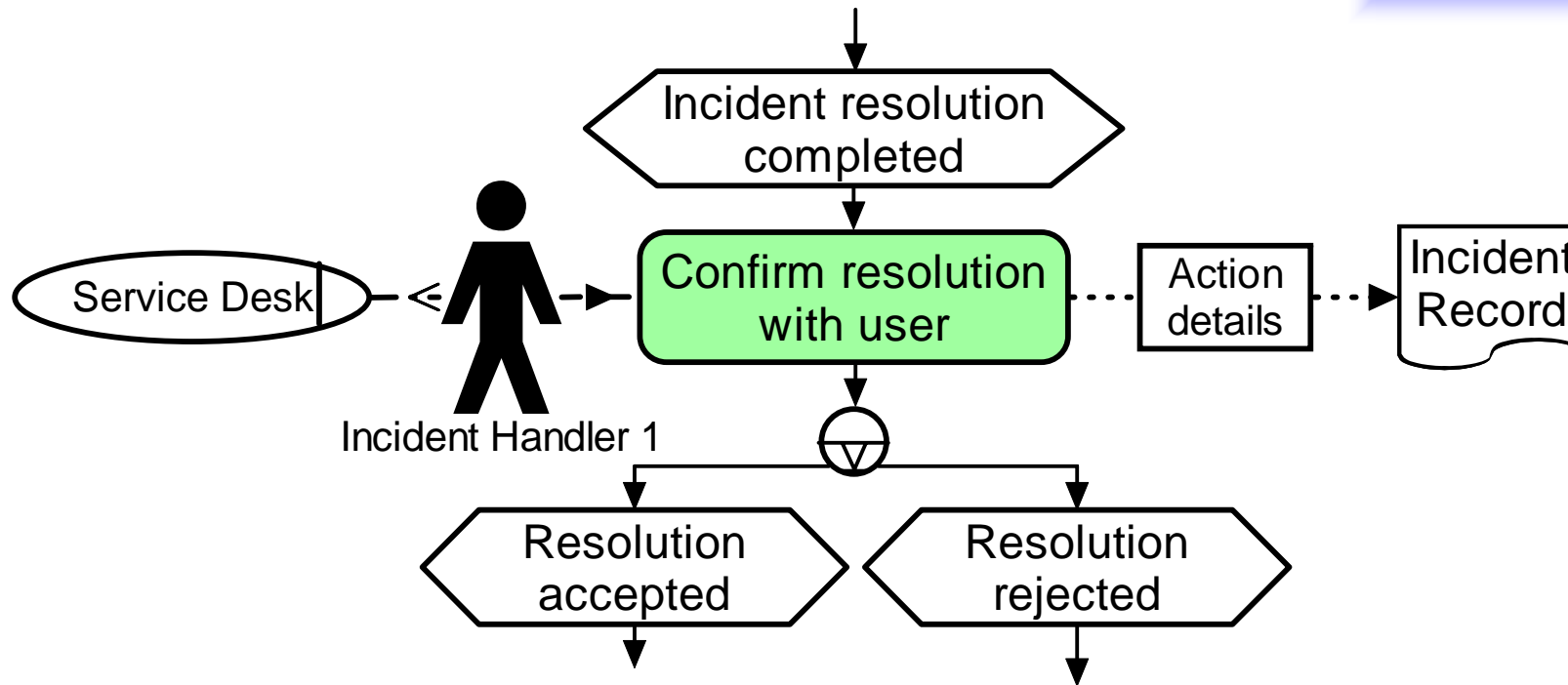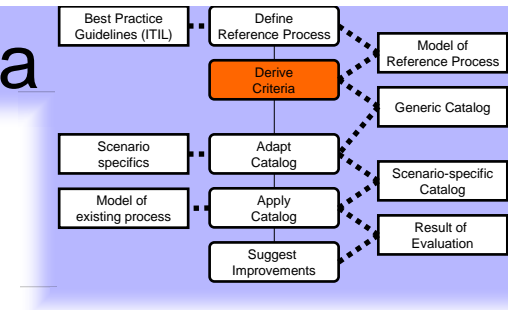
Activity "Confirm resolution with user"
is executed unconditionally

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Deriving Criteria: Leaf Criteria

- Create appropriate criterion

| Effectiveness of activities | ← | Execution of "Confirm resolution with user" |

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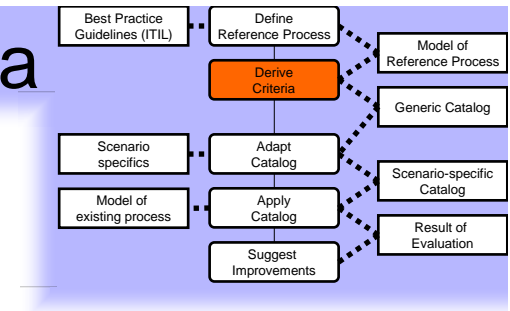
Deriving Criteria: Leaf Criteria

- Create appropriate criterion

- Assign reference manifestation highest rating

Effectiveness of activities ← Execution of "Confirm resolution with user"

Manifestation	Score
Activity executed unconditionally	3

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Deriving Criteria: Leaf Criteria

- Create appropriate criterion

- Assign reference manifestation highest rating

- Explore and rate alternative manifestations

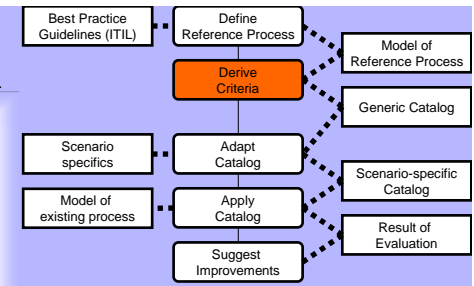| Best Practice Guidelines (ITIL)	Define Reference Process	Model of Reference Process
	Derive Criteria	Generic Catalog
Scenario specifics	Adapt Catalog	Scenario-specific Catalog
Model of existing process	Apply Catalog	Result of Evaluation
	Suggest Improvements	

Effectiveness of activities ← Execution of "Confirm resolution with user"

Manifestation	Score
Activity executed unconditionally	3
Activity executed under specified conditions	2
Activity executed under unspecified conditions	1
Activity not performed	0

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Deriving Criteria: Leaf Criteria

- Create appropriate criterion

- Assign reference manifestation highest rating

- Explore and rate alternative manifestations
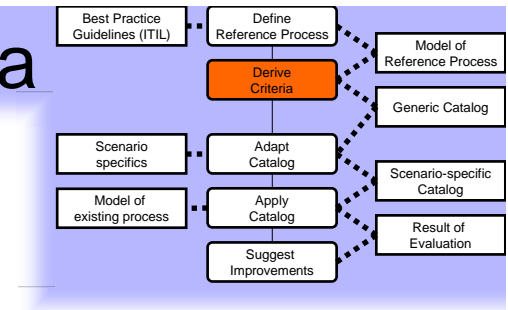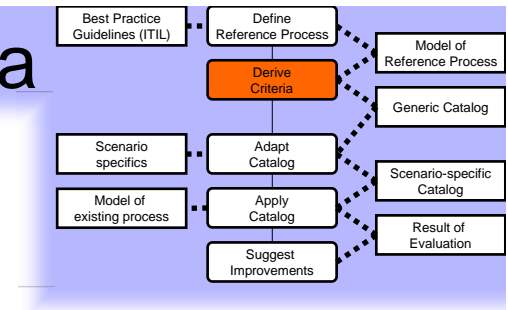
- Assign approximate weight

Best Practice Guidelines (ITIL)	Define Reference Process	Model of Reference Process
Scenario specifics	Derive Criteria	Generic Catalog
Model of existing process	Adapt Catalog	Scenario-specific Catalog
	Apply Catalog	Result of Evaluation
	Suggest Improvements	

Effectiveness of activities ← 2 ← Execution of "Confirm resolution with user"
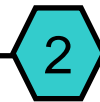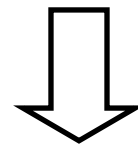
Manifestation	Score
Activity executed unconditionally	3
Activity executed under specified conditions	2
Activity executed under unspecified conditions	1
Activity not performed	0

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Adapting the catalog

- Add and remove criteria as required

- Fine-tune criteria weights

Generic Catalog

Incident Management ← 1-2 ← Integration ← 4 ← Internal Integration

Integration ← 2 ← Integration with Configuration Management
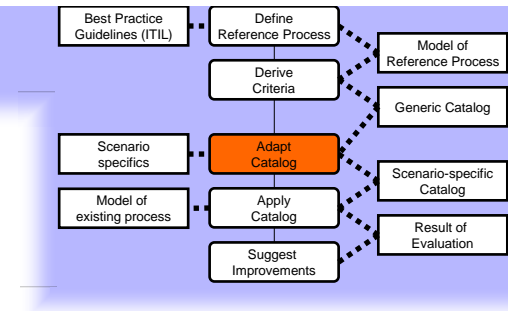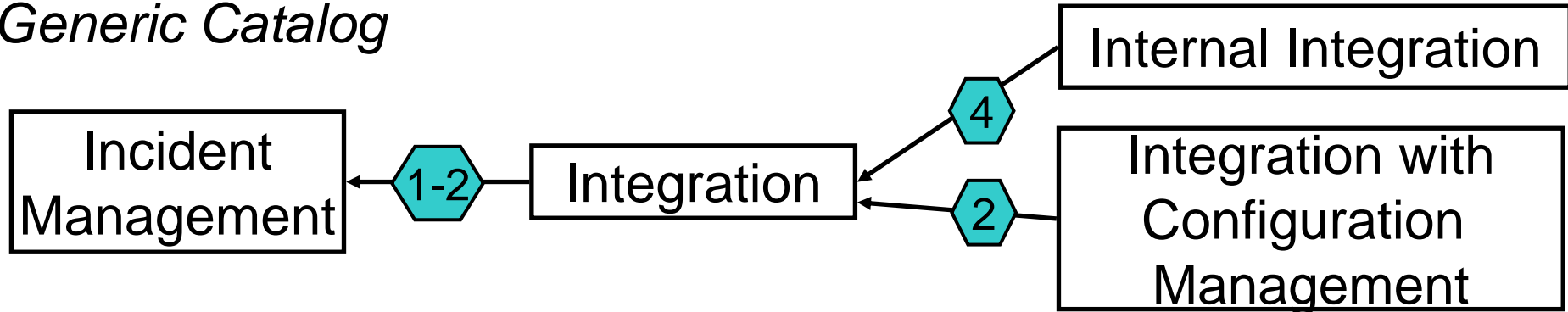
⇓ "Configuration Information is most important for us"

Scenario-specific Catalog

Incident Management ← 2 ← Integration ← 4 ← Internal Integration

Integration ← 4 ← Integration with Configuration Management

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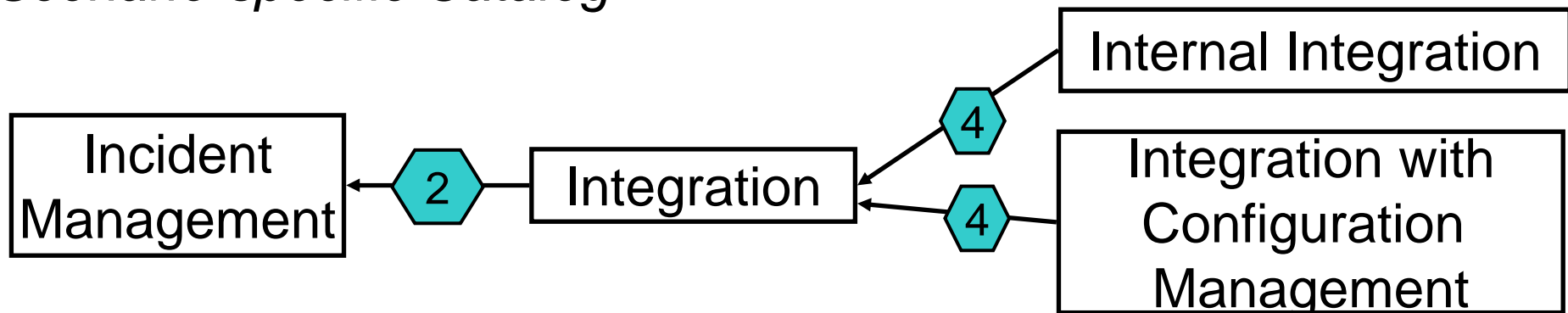
Applying the Catalog

- Model of existing process needed

- Determine ratings of leaf criteria

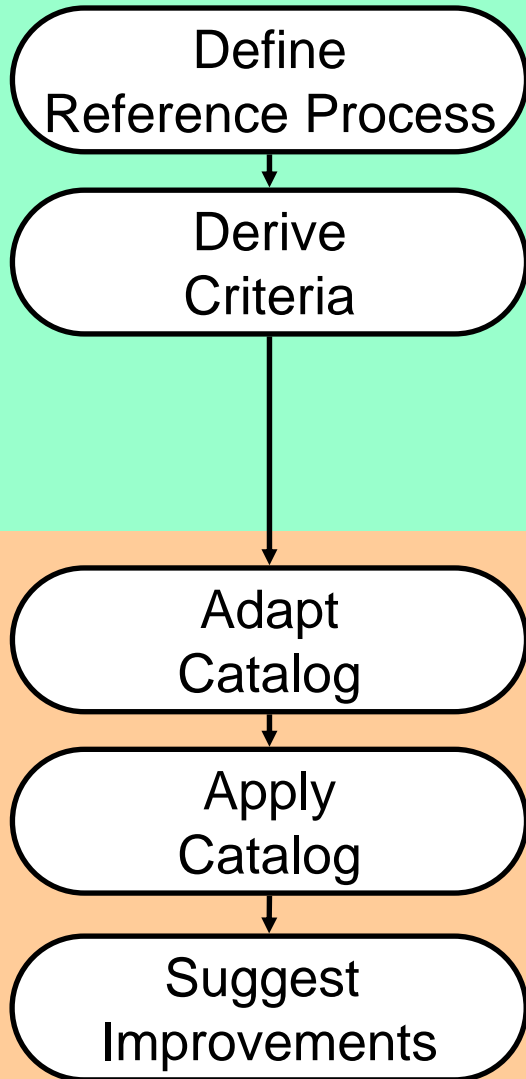- Recursively calculate ratings for inner-node criteria

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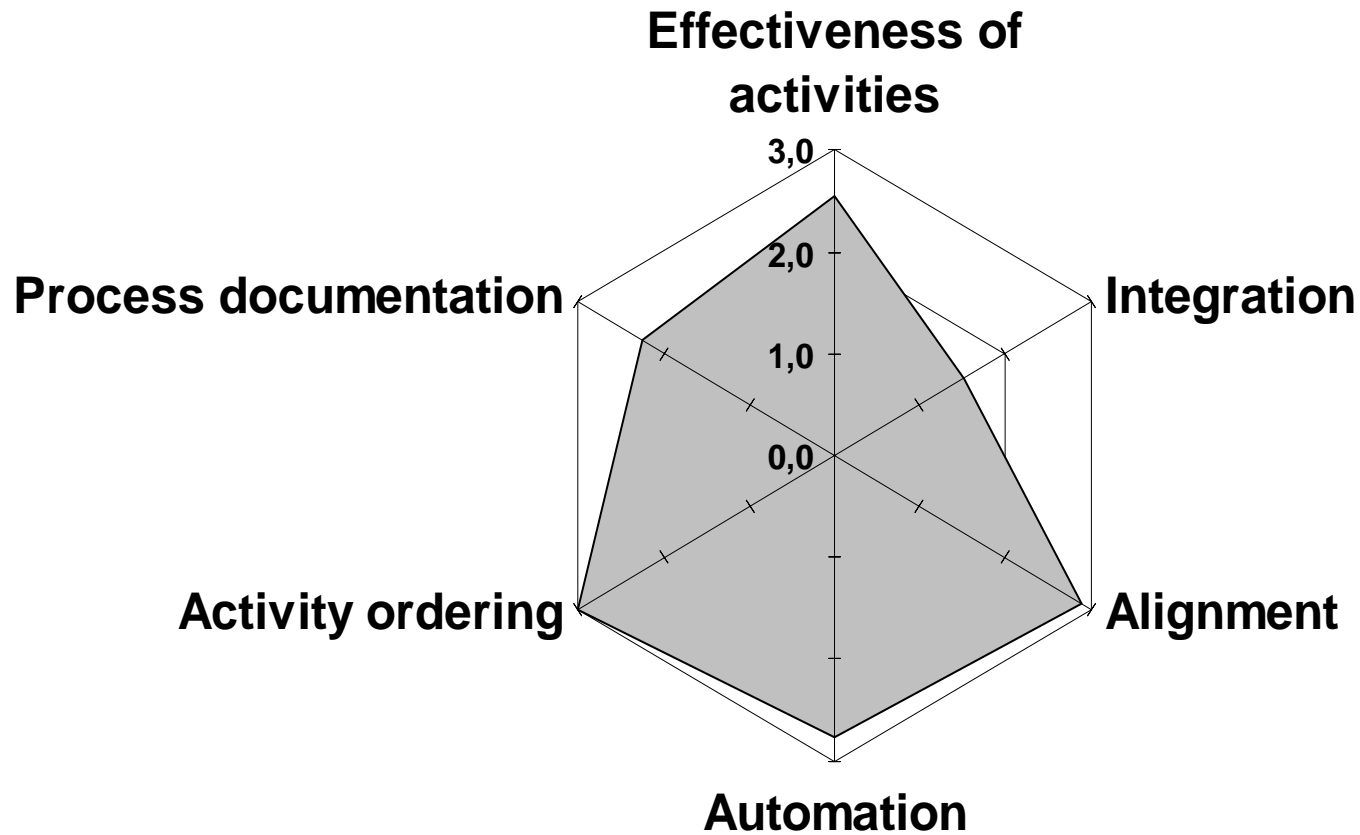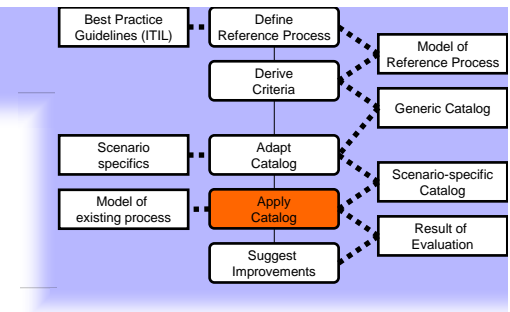
Status

```
┌─────────────────────┐
│  Define             │   ✓ Reference Process based on ITIL Incident
│  Reference Process  │   Management
└─────────────────────┘
│  Derive             │   ✓ Generic catalog for evaluating Incident
│  Criteria           │   Management processes
└─────────────────────┘
```

General Experience:
Scenario-independent steps of methodology elaborate

```
│  Adapt              │   ✓ Scenario-specific catalog for evaluating user
│  Catalog            │   support processes at BMW Group
└─────────────────────┘
│  Apply              │   ✓ Evaluation completed
│  Catalog            │
└─────────────────────┘
│  Suggest            │   ➢ Results of evaluation currently being
│  Improvements       │   used in BPR project at BMW Group
└─────────────────────┘
```

General Experience:
Scenario-specific steps easy and quick to conduct

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Current Work

- <u>Generic catalog</u>:

  - Forwarded to benchmarking partners of USC for further feedback

- <u>Analysis of Service Management processes</u>:

  - Generic catalogs for other processes

  - Adding considerations of change costs to evaluation

- <u>General criteria catalog methodology</u>:

  - Continuing to apply criteria catalogs to other tasks

  - Improvement of methodology:

    - Handling non tree-like structures

    - Modeling and handling inter-criteria dependencies

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Conclusion

Benefits:

+ Step-by-step method for process analysis

+ Generic catalog reusable in different scenarios

+ Application of generic catalogs straightforward and easy

Limitations:

- Dependent on "best practices" database in level of detail and quality of evaluation

- Not 100% accurate

But: similar problems exist with benchmarking!

➔ Results comparable to traditional benchmarking at a fraction of the cost

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