Rocket software

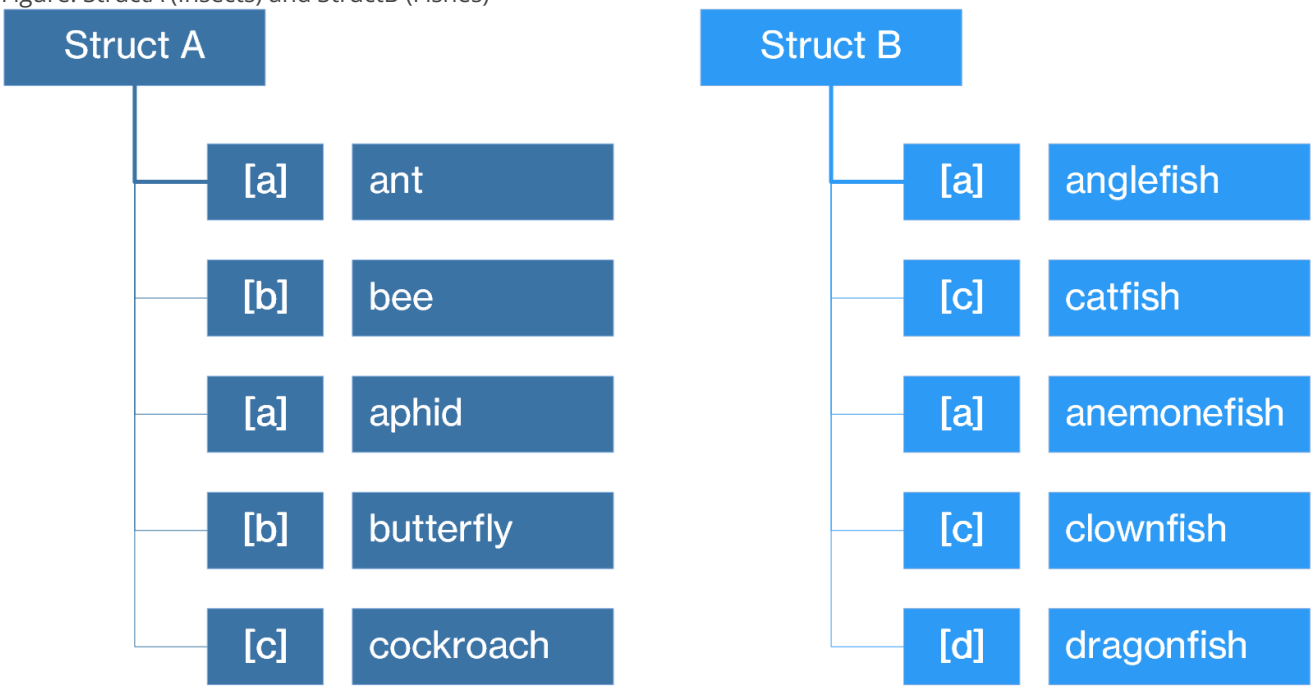
Rocket Uniface Library 10.4

Adding, Copying, Moving, and Replacing Struct Members

You can add and replace members in existing Structs, insert them at specified positions, detach them, or move them to new positions, or to new Structs.

Assume that the variables `vStructA` and `vStructB` refer to the following Structs, respectively:

Figure: StructA (Insects) and StructB (Fishes)



Adding a Member to a Struct

If a `struct` variable refers to an empty Struct, you can add a new member by specifying the new member name after the de-reference operator and assigning it a value. If the member does not yet exist, it is added. For example, to create Struct A, you can start with creating an empty Struct and adding a member:

```
vStructA = $newstruct
vStructA->a = "ant"
```

If a Struct has one member, you can append a named Struct member by specifying -1 as the index position. For example

```
vStructA->a{-1} = "aphid"
vStructB->a{-1} = "angelfish"
```

This implicitly inserts a new member named a after the last member named a, or as the last member if there was no a.

Copying and Replacing Struct Members

The following code copies members of Struct B to Struct A.

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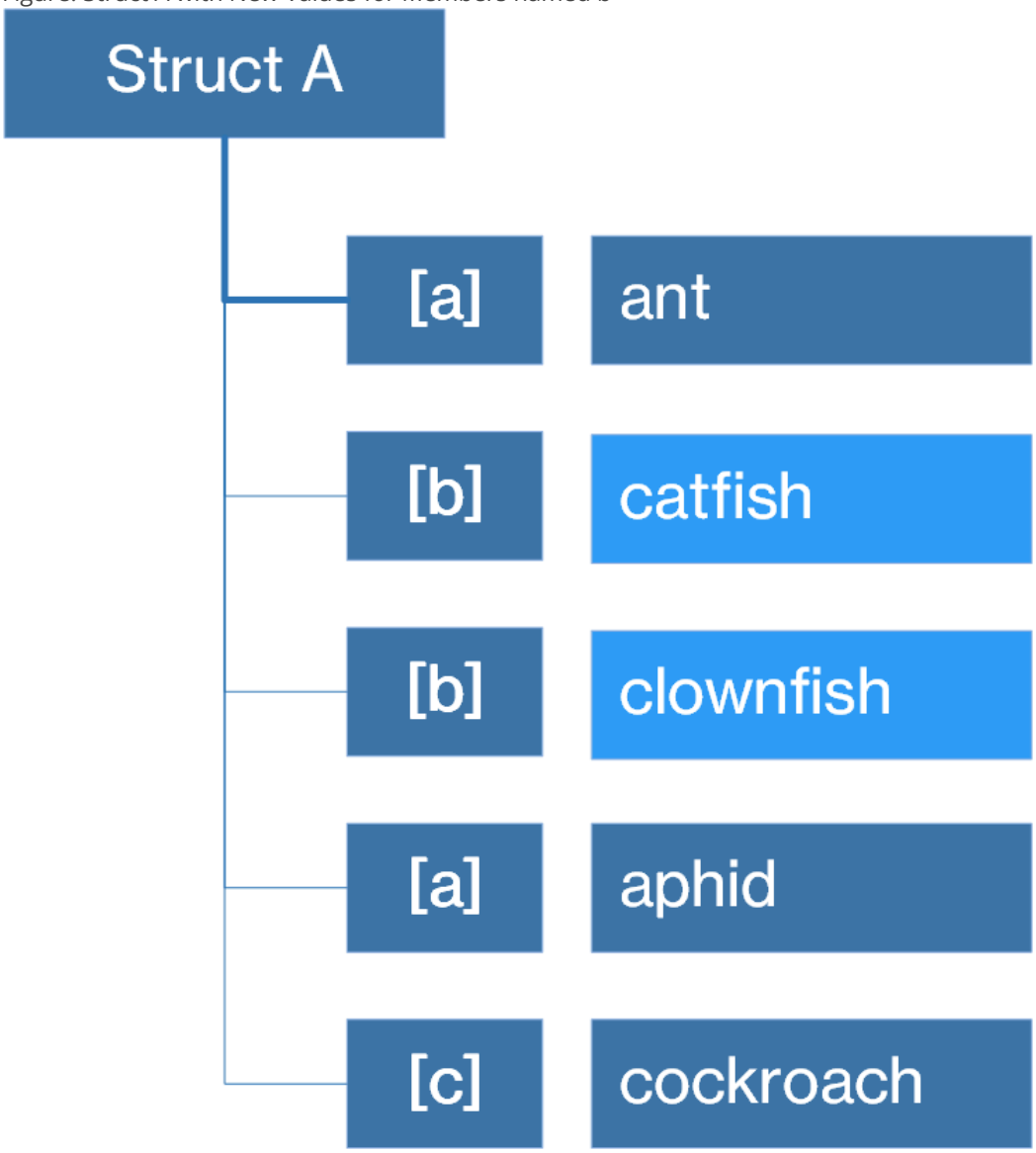
```
vStructA->b = vStructB->c
```

Assignment is by value, so the existing values for the StructA members are replaced by the values specified in the right side of the assignment. If no other `struct` variables point to these members, they are deleted.

The new values are inserted in at the point where the first `b` member was located.

Figure: Struct A with New Values for Members named b



Replacing and Appending Struct Members by Name and Index

When using the Struct index operator after a member name, only the member at that index position is changed.

Variables `vStructA` and `vStructB` refer to the original contents of the Structs illustrated in Figure 1.

The following code accesses the members of Struct 1 by both name and index and changes its contents.

```
vStructA->a{2} = vStructB->c  [1]
```

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```
vStructA->b{-1} = vStructB->a [2]
```

1. Replaces the second member named `a` in StructA (`aphid`) with the values of the members named `c` in StructB (`catfish` and `clownfish`).
2. Copies the values of members named `a` in StructB (`anglefish` and `anemonefish`) after the last member named `b` in StructA (`butterfly`).

Figure: Struct A After Replacing Contents by Name and Index

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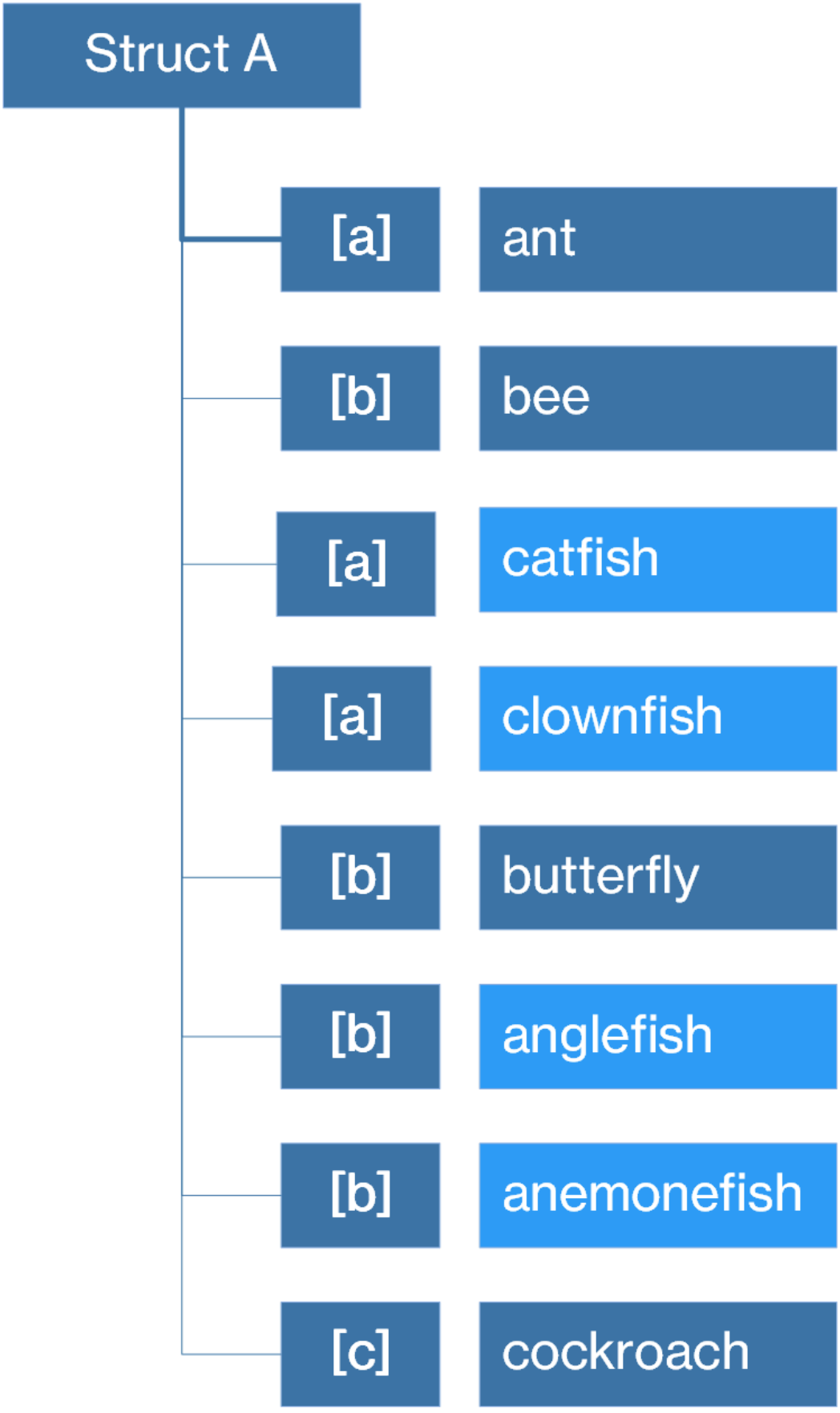

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Copying and Replacing Struct Members by Index Only

You can also add Struct members at a specific index position in the list of members using the wildcard to specify a collection and the index operator to specify a position in the collection (that is, the list of members).

Variables `vStructA` and `vStructB` refer to the original contents of the Structs illustrated in Figure 1.

```
vStructA->*{4} = vStructB->c [1]
vStructA->*{-1} = vStructB->a{2} [2]
```

1. Replaces the fourth member in StructA (`butterfly`) with the values of the members named `c` in StructB (`catfish` and `clownfish`).
2. Copies the values of second members named `a` from StructB (`anemonefish`) after the last member in StructA.

Figure: Struct A After Replacing Contents at Index

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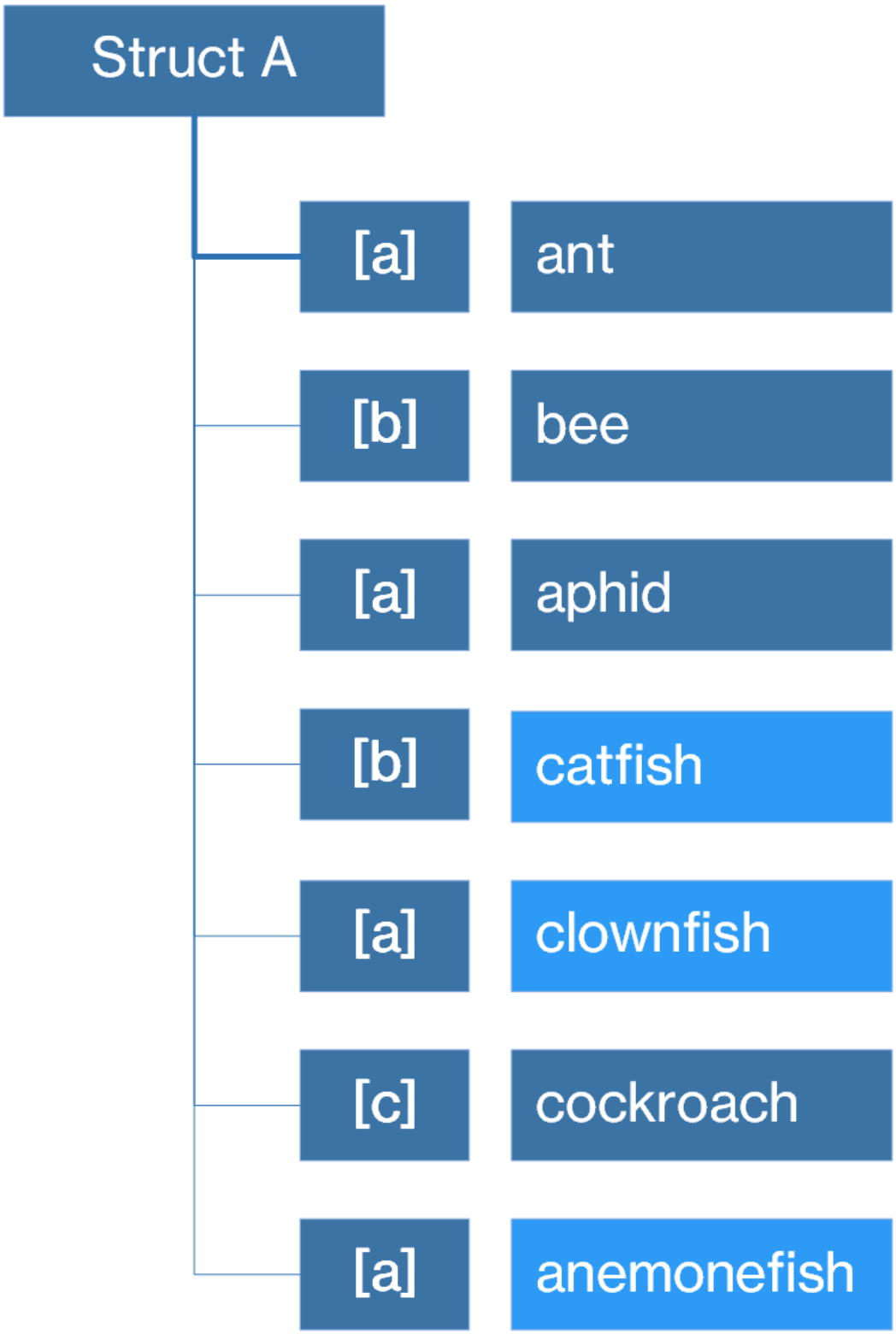

Moving Structs

- Detach a Struct member from its parent, making it a top node. For example:

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```
vStruct->$parent = ""
```

- Move a Struct to another Struct. For example:

  ```
  vStructA->$parent = vStructB
  ```

  This detaches the StructA from its current parent and adds it as a member to the specified StructB.

- Moving a Struct member to a different position within the parent Struct:

  ```
  vStructA->$index = 5
  ```

  This makes StructA the 5th member of its parent.

- Move a Struct member to the last position in its parent member list:

  ```
  vStructA->$index = -1
  ```

Related tasks

Example: Moving Structs
Example: Removing Members

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