

## ndn-cxx - Task #3292

Task # 3289 (Closed): Validator Refactoring

### Design and Implement TrustAnchorContainer

10/26/2015 04:05 PM - Yingdi Yu

<b>Status:</b>	Closed	<b>Start date:</b>	10/26/2015
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	Alex Afanasyev	<b>% Done:</b>	100%
<b>Category:</b>	Security	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	v0.6		

#### Description

TrustAnchorContainer is a member of validator::KeyManager, which manages pre-trusted keys.

There are two types of pre trusted keys: static which once loaded will stay in the container forever, and dynamic which will be refreshed every certain period.

Keys can be reloaded from a file path. When the path points to a file, a key will be loaded from the file; when the path points to a directory, all the keys under the directory will be loaded.

TrustAnchors can be searched by key name and interest, it can also be searched by group. Each group of dynamic keys are assigned an ID. For example, if all dynamic keys under a directory could be grouped together and share the same ID.

```
class TrustAnchorContainer
{
public:
    TrustAnchorContainer();

    ~TrustAnchorContainer();

    // @brief Insert static trust anchor from data packet.
    void
    insert(const shared_ptr<Data> idCert, const std::string& id = "");

    // @brief Insert dynamic trust anchor from path.
    void
    insert(const std::string& groupId, const std::string& certfilePath,
           const time::nanoseconds& refreshPeriod, bool isDir = false);

    // @brief Get certificate given key name
    shared_ptr<const Data>
    find(const Name& keyName);

    // @brief Get certificate given interest
    shared_ptr<const Data>
    find(const Interest& interest);

    // @brief Get certificates under id
    const std::list<shared_ptr<const Data>>
    findById(const std::string& id);

private:
    // @brief Refresh anchors, triggered by find
    void
    refreshAnchors();

private:
    AnchorList m_anchors; // List of anchors indexed by name
    AnchorIndex m_anchorIndex; // Anchor index, indexed on id and expire time
};
```

#### History

#1 - 10/28/2015 09:36 AM - Junxiao Shi

Where can static keys be loaded from?

**#2 - 10/28/2015 10:18 AM - Qiuhan Ding**

- Description updated

**#3 - 10/28/2015 09:11 PM - Qiuhan Ding**

- Description updated

**#4 - 11/02/2015 05:44 PM - Qiuhan Ding**

- Description updated

**#5 - 11/04/2015 09:37 AM - Yingdi Yu**

- Status changed from New to Code review

- % Done changed from 0 to 90

**#6 - 11/17/2015 09:30 AM - Qiuhan Ding**

- Status changed from Code review to Closed

**#7 - 11/25/2015 12:27 AM - Qiuhan Ding**

- Parent task changed from #3290 to #3289

**#8 - 11/25/2015 12:28 AM - Qiuhan Ding**

- % Done changed from 90 to 100

**#9 - 01/12/2017 08:38 PM - Alex Afanasyev**

- Assignee changed from Qiuhan Ding to Alex Afanasyev

- Target version set to v0.6