Firefox OS Asynchronous Request

In Firefox OS, app is treated as web page. Web apps need to access device hardware (such as battery status or the device vibration hardware), as well as access to data stored on the device (such as the calendar or contacts list). This is achieved via WebAPI.

Most WebAPIs send an asynchronous request to access device resource. We use contacts API as an example. When app demands contact information from contacts list, it calls contacts API and registers onsuccess and onerror callback handlers. Callback handler is the callback function to handle response of the API call.

Contacts API generates a random ID for the request and store request which is a DOMRequest object in a list. DOMRequest object contains the search result from contacts list as well as the reference to operation's result. Additionally, in order to identify which frame sends the request, DOMRequest object includes DOMWindow which is created for each frame. After random ID has been generated, Contacts API sends get-contact request to system and return a dummy DOMRequest object to caller. When Contacts API receives the response of API call, Firefox OS uses same ID to retrieve the DOMRequest Object which sent get-contact request from list. The previous dummy DOMRequest Object which return to caller can be assigned contact information and trigger corresponding callback handler only if the reference of DOMRequest still comes from same domain.