Controller Shield: Boron: Release Plan

Contents

Introduction

Boron Release is intended to harden the existing usecplugin and extend it to collect more security related information. Usecplugin Beryllium release collects security information related to OpenFlow plugin. In the current Boron release, usecplugin will collect information about security breach attempts via OpenDaylight's north bound interface (through AAA service) and east-west interface (through SDNi App). Moreover, Usecplugin will also check whether DDoS attack is occuring on any of its plugin ports (eg. OVSDB 6640 port, DLUX 8181 port etc.) and collect the relevant data from these ports. Also, the plugin will expose the database contents via Restconf interface for any North Bound App to add logic for programming flows to protect the controller.

Release Deliverables

- Information on Failed login attempts to DLUX user interface
- Information on Failed login attempt to SDNi App interface
- Hardened and Improved Code for OpenFlow Plugin related attack (from Be release)

Release Milestones

Milestone	Offset 2 Date	Deliverables			
M1	03/24/2016	**Name**	**Status**	**Description**	
		Intent to participate	**Done**	Intent to participate in Boron Simultaneous Release	
		Candidate Release Plan	**Done**	Candidate Release Plan	
M2	05/05/2016	**Name**	**Status**	**Description**	
		Final Release Plan	*Done*	Final Release Plan	
M3	06/02/2016	**Name**	**Status**	**Description**	
		Beryllium Code Improvement		Increase test coverage of Beryllium implementation	
		ODL Login Attempt Monitoring		Monitor Login Attempt to ODL and identify successful and failed attempts	

		Name	Status	Description
M4	06/30/2016	ODL Login Attempt APIs		Develop REST and JAVA APIs using RPCs and Notifications
		Documentation		• User guide, Developer guide and ASCII Docs • Include a word count of each relevant .adoc file with a goal of draft documentation done
		Integration and System Test		• Automated system testing with Robot framework. • Integration testing on Karaf distribution with the dependent components.

		Name	Status	Description
M5	04/08/2016	Code Freeze		Finalize the code development used by usecplugin.
		Documentation		Update wiki documentation to reflect all features.
		Feature Test		Run system test for all features.

		Name	Status	Description
RC0	N/A	Deliverable Name		Deliverable Description

		Name	Status	Description
RC1	N/A	Deliverable Name		Deliverable Description

		Name	Status	Description
RC2	N/A	Release Review		Release Review Description
		Deliverable Name		Deliverable Description

		Name	Status	Description
RC3		Release Review		Release Review Description
		Deliverable Name		Deliverable Description

		Name	Status	Description
Formal Release		Deliverable Name		Deliverable Description

Expected Dependencies on Other Projects

- OpenFlow Plugin
- AAA Plugin
- SDNi App

Expected Incompatibilities with Other Projects

None

Compatibility with Previous Releases

List of Externally Consumable APIs

Southbound Attacks at OpenFlow Plugin

RPC APIs

- Attacks from DPID - Number of OpenFlow Packet_In Attacks from Switch with DeviceID
- Attacks from Host - Number of OpenFlow Packet_In Attacks from SrcIP Address
- Attacks to Server - Number of OpenFlow Packet_In Attacks to DstIP Address
- Attacks at Time of Day - Number of OpenFlow Packet_In Attacks at a Particular Time with a variable Window Time

Notification APIs

- On Low Water Mark Breached - Notification generated on breaching Low Water Mark

Northbound Attacks at AAA Plugin

RPC APIs

- Login Attempt from IP - Returns Time and Type of Attempts (Success or Failure)
- Login Attempt at Time - Returns Attempter IP Address and Type of Attempts (Success or Failure)

Yang Data Store APIs

- Get Login Attempts - Returns Source IP address of Attempter with Time of Attempts and Type of Attempts (Success or Failure)

Notification APIs

- On Invalid Login Attempt - Notification generated on Invalid Login Attempt

East-West Attacks at SDNinterface App Plugin

Notification APIs

- Unknown Peer Controller Connection Request

RPC APIs

- No of Connection Requests from IP Address

Yang Data Store APIs

- Time and IP Address of Connection Requests

Themes and Priorities

Requests from Other Projects

None Listed

Test Tools Requirements

- Java unit and integration tests

Other

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