



Maseeh College of Engineering
and Computer Science

PORTLAND STATE UNIVERSITY

Iteration Plan #1

Version: 1.0

Project: Clang Randstruct

Author(s): Tim Pugh

Date: Nov 30, 2018

Abstract

randstruct is a GCC compiler plugin that was ported from grsecurity to upstream. This randomizes the layout of manually/automatically selected C structures. This makes flaw exploitation less deterministic, requiring significantly more flaws before an attacker can detect and target the layout of sensitive kernel structures in memory. Kees Cook, our sponsor, wants this functionality to be made usable in Clang/LLVM.

Document Control

Document location

Location
PDX.EDU Domain->G-Suite->Clang-Drive (Administrator: Tim Pugh)

Author

Position	Name	Contact no
Team Lead	Tim Pugh	503-739-3231

Revision history

Version	Issue date	Author/editor	Description/Summary of changes
1.0	2018-11-30	Tim Pugh	Initial Specification

Reviewed by

Version	Issue date	Name	Position	Review date

Approvals

Version	Issue date	Name	Position	Approval date
1.0	2018-11-30	Tim Pugh	Team Lead	2018-12-02

Related documents

Document	Location
All Files	https://drive.google.com/drive/u/0/folders/0AFmz2KEALoKcUk9PVA

Project Team and Roles

Person	Role
Tim Pugh	Team Lead, Research & Development
Connor Kuehl	Research and Development
Jeff Takahashi	Infrastructure, Research, Test & Development
Jordan Cantrell	Github, Travis CI reports, Research & Development
James Foster	Research & Development and features
Cole Nixon	Research, Test & Development
Nikk Forbus	Research, Development, Secretary, Drive Documentation

Introduction	6
Plan	6
Resource Summary	8

1.0 Introduction

This document is to outline the milestones intended for the Clang-Randstruct project.

1.1 Purpose

We intend to use this document to evaluate our goals and keep a timeline leading up to completion of our project.

2.0 Plan

Process	Schedule (Workweek)
Project Assigned	Week 44
Gather requirements	Week 44
Research	Week 45 - Ongoing
Implementation & Testing	Week 02 - Ongoing
Delivery	Monday 18, March
Post-Mortem & Presentation	Monday 18, March

2.1 Schedule of Iteration Workflows

A summary of the activities in each workflow participating in this iteration is given here. Any risks or events that could cause slippage in the dates should be given here. Provide a breakdown tabular form, listing *only the workflows relevant to this iteration*.

Workflow	Start Date	End Date	Duration (days)
Requirements	Oct 29 th 2018	Nov. 2 nd 2018	5
Analysis and Design	Nov 5 th 2018	Ongoing	~
Implementation	Jan 7 th 2019	March 4 th 2019	56
Testing	March 4 th 2019	March 18 th 2019	14

Table 1 : Iteration Workflow Schedule

3.0 Resource Summary

- Kees Cook – Project Sponsor / Stakeholder
- Laura Abbott – Backup Sponsor
- Clang Developer Mailing list - https://clang.llvm.org/get_involved.html
- Prototype Server – MCECS Engineering Building
- Master Server – Google Cloud Platform (US-West-1B)
- Capstone Large Room – MCECS Engineering Building
- Laptops – 7 for each team member
- Github - Microsoft

4.0 Quality Assurance

Deliverable	QA Strategy	Responsible
Requirements	<i>Schedule and attend meeting</i>	Tim Pugh, Jeff Takahashi, Connor Kuehl, Kees Cook
Analysis and Design	Research Clang documentation, reach out to development community, reach out to sponsor, prototype	All
Implementation	Test Suite, Static Analysers, Security Analysers, Memory Leak Detection, License Analysers, Compilation Warning Flags	All
Testing	2 weeks allocated for final debugging, V and V	All