

SPRINGER BRIEFS IN COMPUTER SCIENCE

Lucas Davi
Ahmad-Reza Sadeghi

Building Secure Defenses Against Code-Reuse Attacks



Springer

Building Secure Defenses Against Code Reuse Attacks

Springerbriefs In Computer Science

BM King



Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science:

Building Secure Defenses Against Code-Reuse Attacks Lucas Davi,Ahmad-Reza Sadeghi,2015-12-07 This book provides an in depth look at return oriented programming attacks It explores several conventional return oriented programming attacks and analyzes the effectiveness of defense techniques including address space layout randomization ASLR and the control flow restrictions implemented in security watchdogs such as Microsoft EMET Chapters also explain the principle of control flow integrity CFI highlight the benefits of CFI and discuss its current weaknesses Several improved and sophisticated return oriented programming attack techniques such as just in time return oriented programming are presented Building Secure Defenses against Code Reuse Attacks is an excellent reference tool for researchers programmers and professionals working in the security field It provides advanced level students studying computer science with a comprehensive overview and clear understanding of important runtime attacks

Building Secure Defenses Against Code-Reuse Attacks Lucas Davi,Ahmad-Reza Sadeghi,2015 This book provides an in depth look at return oriented programming attacks It explores several conventional return oriented programming attacks and analyzes the effectiveness of defense techniques including address space layout randomization ASLR and the control flow restrictions implemented in security watchdogs such as Microsoft EMET Chapters also explain the principle of control flow integrity CFI highlight the benefits of CFI and discuss its current weaknesses Several improved and sophisticated return oriented programming attack techniques such as just in time return oriented programming are presented Building Secure Defenses against Code Reuse Attacks is an excellent reference tool for researchers programmers and professionals working in the security field It provides advanced level students studying computer science with a comprehensive overview and clear understanding of important runtime attacks

Analysis of Defenses Against Code Reuse Attacks on Modern and New Architectures Isaac Noah Evans,2015 Today the most common avenue for exploitation of computer systems is a control flow attack in which the attacker gains direct or indirect control of the instruction pointer In order to gain remote code execution attackers then exploit legitimate fragments of code in the executable via techniques such as return oriented programming or virtual table overwrites This project aims to answer fundamental questions about the efficacy of control flow integrity CFI a defensive technique which attempts to prevent such attacks by ensuring that every control flow transfer corresponds to the original intent of the program author Although this problem is in general undecidable most programs running on modern operating systems adhere to standard conventions which allow inferences from static analysis to set a specification for allowable runtime behavior 1 By examining extremely large complex real world programs such as web browsers this project will characterize the fundamental limits of CFI techniques We find that it is possible for a program in which CFI is perfectly enforced to be exploited via a novel control flow attacks 2 We examine the potential for hardware support for CFI and other techniques via generalized tagged architectures and explore the tradeoff between the compatibility performance and security

guarantees of hardware assisted policies on tagged architectures

The Continuing Arms Race Per Larsen,Ahmad-Reza Sadeghi,2018-02-23 As human activities moved to the digital domain so did all the well known malicious behaviors including fraud theft and other trickery There is no silver bullet and each security threat calls for a specific answer One specific threat is that applications accept malformed inputs and in many cases it is possible to craft inputs that let an intruder take full control over the target computer system The nature of systems programming languages lies at the heart of the problem Rather than rewriting decades of well tested functionality this book examines ways to live with the programming sins of the past while shoring up security in the most efficient manner possible We explore a range of different options each making significant progress towards securing legacy programs from malicious inputs The solutions explored include enforcement type defenses which excludes certain program executions because they never arise during normal operation Another strand explores the idea of presenting adversaries with a moving target that unpredictably changes its attack surface thanks to randomization We also cover tandem execution ideas where the compromise of one executing clone causes it to diverge from another thus revealing adversarial activities The main purpose of this book is to provide readers with some of the most influential works on run time exploits and defenses We hope that the material in this book will inspire readers and generate new ideas and paradigms

Defeating Code Reuse Attacks with Minimal Tagged Architecture Samuel P. Fingeret,2015 In this thesis we argue that software based defenses to code reuse attacks are fundamentally flawed With code pointer integrity as a case study we show that a secure and efficient software based defense to code reuse attacks is impossible and thus motivate the case for hardware approaches We then propose our tagged architecture system Taxi Tagged C as a practical defense against code reuse attacks which minimally modifies existing hardware components We also propose strong defense policies which aim to guarantee security while minimizing tag memory usage Our Taxi prototype a modified RISC V ISA simulator demonstrates that we can defeat code reuse attacks with high compatibility and low memory overhead

A Systematic Analysis of Defenses Against Code Reuse Attacks Kelly C. Casteel,Massachusetts Institute of Technology. Department of Electrical Engineering and Computer Science,2013 In this thesis we developed a systematic model of the code reuse attack space where facts about attacks and defenses were represented as propositional statements in boolean logic and the possibility of deploying malware was a satisfiability instance We use the model to analyze the space in two ways we analyze the defense configurations of a real world system and we reason about hypothetical defense bypasses We construct attacks based on the hypothetical defense bypasses Next we investigate the control flow graphs enforced by proposed control flow integrity CFI systems We model the behavior of these systems using a graph search We also develop several code reuse payloads that work within the control flow graph enforced by one proposed CFI defense Our findings illustrate that the defenses we investigated are not effective in preventing real world attacks

Adversarial and Uncertain Reasoning for Adaptive Cyber Defense Sushil Jajodia,George Cybenko,Peng Liu,Cliff Wang,Michael Wellman,2019-08-30 Today s cyber

defenses are largely static allowing adversaries to pre plan their attacks In response to this situation researchers have started to investigate various methods that make networked information systems less homogeneous and less predictable by engineering systems that have homogeneous functionalities but randomized manifestations The 10 papers included in this State of the Art Survey present recent advances made by a large team of researchers working on the same US Department of Defense Multidisciplinary University Research Initiative MURI project during 2013 2019 This project has developed a new class of technologies called Adaptive Cyber Defense ACD by building on two active but heretofore separate research areas Adaptation Techniques AT and Adversarial Reasoning AR AT methods introduce diversity and uncertainty into networks applications and hosts AR combines machine learning behavioral science operations research control theory and game theory to address the goal of computing effective strategies in dynamic adversarial environments **Taxi** Julián Armando González,2015 The rise of code reuse attacks has been devastating for users of languages like C and C++ that lack memory safety We survey existing defenses to understand why none are generally applicable focusing our attention on the Code Pointer Integrity CPI defense We show that while CPI is hard to implement securely on modern architectures it is based on the promising idea of storing metadata on memory We also introduce Taxi Tagged C a set of hardware modifications that aim to prevent code reuse attacks by storing small amounts of memory metadata known as tags in hardware Our reference implementation prevents several classes of code reuse attacks without losing compatibility with the C memory model and provides valuable insight into how tagged architectures can be used to enforce security properties on existing code

Analysis of Return Oriented Programming and Countermeasures Eric K. Soderstrom,2014 Introduction Attackers have relatively success in defeating modern defensive techniques by using an exploitation method known as code reuse This class of exploitation techniques makes use of the lack of memory safety in C which allows an attacker to redirect a program s control flow to pre existing snippets of code Code reuse attacks have historically been a powerful and ubiquitous exploitation technique 2 Even as recently as 2014 there has been an outbreak of these code reuse attacks targeting such applications as Adobe Internet Explorer and Firefox 15 Many defensive countermeasures have been taken by the security community ranging from data execution prevention to varying degrees of code randomization This thesis can roughly be broken into two halves 1 Show how code reuse attacks can leverage timing information in order to break many existing defenses 2 Investigate how control flow integrity can be improved upon as a countermeasure to code reuse attacks **Code-Reuse Attacks and Defenses** Lucas Vincenzo Davi,2015

When somebody should go to the book stores, search commencement by shop, shelf by shelf, it is in fact problematic. This is why we allow the books compilations in this website. It will definitely ease you to see guide **Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science** as you such as.

By searching the title, publisher, or authors of guide you essentially want, you can discover them rapidly. In the house, workplace, or perhaps in your method can be every best place within net connections. If you wish to download and install the Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science, it is entirely easy then, in the past currently we extend the belong to to buy and create bargains to download and install Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science so simple!

https://stats.tinkerine.com/files/uploaded-files/default.aspx/Audi_Rs4_B7_Parts_Manual.pdf

Table of Contents Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science

1. Understanding the eBook Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
 - The Rise of Digital Reading Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
 - Advantages of eBooks Over Traditional Books
2. Identifying Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
 - User-Friendly Interface
4. Exploring eBook Recommendations from Building Secure Defenses Against Code Reuse Attacks Springerbriefs In

Computer Science

- Personalized Recommendations
 - Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science User Reviews and Ratings
 - Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science and Bestseller Lists
5. Accessing Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science Free and Paid eBooks
- Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science Public Domain eBooks
 - Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science eBook Subscription Services
 - Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science Budget-Friendly Options
6. Navigating Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science eBook Formats
- ePub, PDF, MOBI, and More
 - Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science Compatibility with Devices
 - Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science Enhanced eBook Features
7. Enhancing Your Reading Experience
- Adjustable Fonts and Text Sizes of Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
 - Highlighting and Note-Taking Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
 - Interactive Elements Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
8. Staying Engaged with Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
- Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
9. Balancing eBooks and Physical Books Building Secure Defenses Against Code Reuse Attacks Springerbriefs In

Computer Science

- Benefits of a Digital Library
- Creating a Diverse Reading Collection Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science

10. Overcoming Reading Challenges

- Dealing with Digital Eye Strain
- Minimizing Distractions
- Managing Screen Time

11. Cultivating a Reading Routine Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science

- Setting Reading Goals Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
- Carving Out Dedicated Reading Time

12. Sourcing Reliable Information of Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science

- Fact-Checking eBook Content of Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science
- Distinguishing Credible Sources

13. Promoting Lifelong Learning

- Utilizing eBooks for Skill Development
- Exploring Educational eBooks

14. Embracing eBook Trends

- Integration of Multimedia Elements
- Interactive and Gamified eBooks

Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science Introduction

In this digital age, the convenience of accessing information at our fingertips has become a necessity. Whether its research papers, eBooks, or user manuals, PDF files have become the preferred format for sharing and reading documents. However, the cost associated with purchasing PDF files can sometimes be a barrier for many individuals and organizations. Thankfully, there are numerous websites and platforms that allow users to download free PDF files legally. In this article, we will explore some of the best platforms to download free PDFs. One of the most popular platforms to download free PDF files is Project

Gutenberg. This online library offers over 60,000 free eBooks that are in the public domain. From classic literature to historical documents, Project Gutenberg provides a wide range of PDF files that can be downloaded and enjoyed on various devices. The website is user-friendly and allows users to search for specific titles or browse through different categories. Another reliable platform for downloading Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science free PDF files is Open Library. With its vast collection of over 1 million eBooks, Open Library has something for every reader. The website offers a seamless experience by providing options to borrow or download PDF files. Users simply need to create a free account to access this treasure trove of knowledge. Open Library also allows users to contribute by uploading and sharing their own PDF files, making it a collaborative platform for book enthusiasts. For those interested in academic resources, there are websites dedicated to providing free PDFs of research papers and scientific articles. One such website is Academia.edu, which allows researchers and scholars to share their work with a global audience. Users can download PDF files of research papers, theses, and dissertations covering a wide range of subjects. Academia.edu also provides a platform for discussions and networking within the academic community. When it comes to downloading Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science free PDF files of magazines, brochures, and catalogs, Issuu is a popular choice. This digital publishing platform hosts a vast collection of publications from around the world. Users can search for specific titles or explore various categories and genres. Issuu offers a seamless reading experience with its user-friendly interface and allows users to download PDF files for offline reading. Apart from dedicated platforms, search engines also play a crucial role in finding free PDF files. Google, for instance, has an advanced search feature that allows users to filter results by file type. By specifying the file type as "PDF," users can find websites that offer free PDF downloads on a specific topic. While downloading Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science free PDF files is convenient, it's important to note that copyright laws must be respected. Always ensure that the PDF files you download are legally available for free. Many authors and publishers voluntarily provide free PDF versions of their work, but it's essential to be cautious and verify the authenticity of the source before downloading Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science. In conclusion, the internet offers numerous platforms and websites that allow users to download free PDF files legally. Whether it's classic literature, research papers, or magazines, there is something for everyone. The platforms mentioned in this article, such as Project Gutenberg, Open Library, Academia.edu, and Issuu, provide access to a vast collection of PDF files. However, users should always be cautious and verify the legality of the source before downloading Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science any PDF files. With these platforms, the world of PDF downloads is just a click away.

FAQs About Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science Books

1. Where can I buy Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science books?
Bookstores: Physical bookstores like Barnes & Noble, Waterstones, and independent local stores. Online Retailers: Amazon, Book Depository, and various online bookstores offer a wide range of books in physical and digital formats.
2. What are the different book formats available? Hardcover: Sturdy and durable, usually more expensive. Paperback: Cheaper, lighter, and more portable than hardcovers. E-books: Digital books available for e-readers like Kindle or software like Apple Books, Kindle, and Google Play Books.
3. How do I choose a Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science book to read? Genres: Consider the genre you enjoy (fiction, non-fiction, mystery, sci-fi, etc.). Recommendations: Ask friends, join book clubs, or explore online reviews and recommendations. Author: If you like a particular author, you might enjoy more of their work.
4. How do I take care of Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science books? Storage: Keep them away from direct sunlight and in a dry environment. Handling: Avoid folding pages, use bookmarks, and handle them with clean hands. Cleaning: Gently dust the covers and pages occasionally.
5. Can I borrow books without buying them? Public Libraries: Local libraries offer a wide range of books for borrowing. Book Swaps: Community book exchanges or online platforms where people exchange books.
6. How can I track my reading progress or manage my book collection? Book Tracking Apps: Goodreads, LibraryThing, and Book Catalogue are popular apps for tracking your reading progress and managing book collections. Spreadsheets: You can create your own spreadsheet to track books read, ratings, and other details.
7. What are Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science audiobooks, and where can I find them? Audiobooks: Audio recordings of books, perfect for listening while commuting or multitasking. Platforms: Audible, LibriVox, and Google Play Books offer a wide selection of audiobooks.
8. How do I support authors or the book industry? Buy Books: Purchase books from authors or independent bookstores. Reviews: Leave reviews on platforms like Goodreads or Amazon. Promotion: Share your favorite books on social media or recommend them to friends.
9. Are there book clubs or reading communities I can join? Local Clubs: Check for local book clubs in libraries or community centers. Online Communities: Platforms like Goodreads have virtual book clubs and discussion groups.
10. Can I read Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science books for free? Public Domain Books: Many classic books are available for free as they're in the public domain. Free E-books: Some

websites offer free e-books legally, like Project Gutenberg or Open Library.

Find Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science :

audi rs4 b7 parts manual

audi tt manual transmission problems

~~audio asvab study guide~~

~~augenoptik lernfeldern l sungen zum lehrbuch~~

audi parts list manual

~~audio 50 aps manual fr~~

audio bible reading online

aumenta el calor best seller

audiovox alarm clock ipod manual

auditing and assurance services manual solution messier

audi q5 mmi user manual

audi r8 reference guide

aushangpflichtige gesetze aktualisierte neuauflage

aufstze das erklren von kunstwerken mit vier bildtafeln

~~audi s7 owner manual~~

Building Secure Defenses Against Code Reuse Attacks Springerbriefs In Computer Science :

Libretto d'uso e Manutenzione online per la tua MINI Il libretto Uso e manutenzione online rappresenta la versione più aggiornata per la tua MINI ... JOHN COOPER WORKS. John ... Manuali Uso e Manutenzione - MINIMINOR.COM Disponibili i manuali d'Uso e Manutenzione per la propria Innocenti Mini Minor e Mini Cooper. Sono disponibili anche per i modelli di Mini più recenti di ... MINI Driver's Guide 4+ - App Store La Driver's Guide è un libretto Uso e manutenzione specifico* per modelli MINI selezionati**. Per visualizzare il documento la prima volta è necessario un ... Manuale uso e manutenzione MINI 3-5 porte (ITA) Sep 16, 2021 — Manuale di uso e manutenzione per MINI F55-F56 in lingua italiana (©BMW Group) Manuali e istruzioni per auto Mini Libretto Uso E Manutenzione Mini Cooper. Di seconda mano: Privato. EUR 28,00. 0 offerte · Scadenza: 18 dic., alle 16:48 ... MINI Owners and Service Manual Need to see the owner manuals for your MINI? Find a PDF manual or use our interactive online manual to search and view instructional videos & FAQs. Manuali di assistenza e

riparazione Mini Cooper per l'auto Trova una vasta selezione di Manuali di assistenza e riparazione Mini Cooper per l'auto a prezzi vantaggiosi su eBay. Scegli la consegna gratis per ... Manuali di riparazione per MINI e video tutorial. Libretto di istruzioni MINI gratuito · Manuale uso e manutenzione MINI online · Manuale officina MINI pdf · Manuale tecnico d'officina MINI scaricare · Libretto uso ... MINI Driver's Guide - App su Google Play La Driver's Guide è un libretto Uso e manutenzione specifico* per modelli MINI selezionati**. Per visualizzare il documento la prima volta è necessario un ... Innocenti Mini Cooper 1300 - Manuale D'uso e ... - Scribd Manual de uso del Innocenti Mini Cooper 1300 en italiano by daloppel. Tons of Free PMP® Practice Questions Another set of 180 PMP exam practice questions as a downloadable pdf file. ... 10 free questions, dedicated to the 2021-version of the exam by Christopher Scordo. 7000+ Best Free for PMP Sample Questions [PMBOK 5] Here's a list of more than 7000 best free sample questions based on PMBOK® Guide, 5th Edition for the PMP certification exam from more than 60 sources around ... Looking for PMP Exam Prep e-book by Christopher Scordo Oct 14, 2016 — ... PMP Exam Prep e-book by Christopher Scordo. Do you need ... free download by PMI members: PMP Exam Prep: Questions, Answers, & Explanations by Christopher Scordo. Top Free PMP Exam Questions & Practice Tests of 2023 Free PMP exam questions: Practice online mock tests free of cost. Find sample questions simulators and downloadable pdf. PMP Exam Prep Christopher Scordo PDF PMP Exam Prep—Questions, Answers & Explanations, 2013 Edition ... questions and answers carefully, then you should be able to piece together which is the ... PMP Exam Prep: Questions, Answers, & Explanations PMP Exam Prep: Questions, Answers, & Explanations: 1000+ Practice Questions with Detailed Solutions [Scordo, Christopher] on Amazon.com. *FREE* shipping on ... By Christopher Scordo - PMP Exam Prep Questions ... By Christopher Scordo - PMP Exam Prep Questions, Answers, & Explanations: 1000+ PMP ... Download app for iOS Download app for Android. © 2023 Goodreads, Inc. PMP Exam Prep Questions-Answers and Explanations ... PMP Exam Prep Questions-Answers and Explanations 2013 Edition · Author / Uploaded · Ritu ... PMP Exam Prep: Questions, Answers, & Explanations Look inside this book. PMP Exam Prep: Questions, Answers, & Explanations: 1000+ Practice Questions with. Christopher Scordo. PMP Exam Prep: Questions, Answers ... PMP Practice Exam 1 | Free PMP Exam Questions This PMP practice exam includes 50 challenging questions with detailed explanations. These free PMP exam questions are great for your test prep and review. CT Primary ISO Harness Non SWC Adaptor For Ford ... CT Primary ISO Harness Non SWC Adaptor For Ford Laser 2001-2002 Ranger 2006-2011 ; SPARK-ONLINE (4512) ; Approx. \$6.04. + \$41.84 shipping ; Item description from ... Wiring Diagram Manual for the 2001 Ford Laser This document comprises the 8 groups shown below. A how-to on using and reading wiring diagrams,. General information of. GI wiring diagrams using test ... GZYF ISO Wiring Harness Stereo Plug Lead Wire Loom ... GZYF ISO Wiring Harness Stereo Plug Lead Wire Loom Adaptor, Stereo ISO Wiring Harness Tinned Copper for Mazda, for Ford Escape, for Ford Laser, for Ford Ranger. BASIKER Metra 70-1817 Radio Installation Wiring Harness ... Fits: The wiring harness fits for Chrysler/Dodge/Jeep/Plymouth(Details in product description)

· Excellent Quality: The car speaker wire harness connector ... 2001 LASER Wiring Diagrams Unused terminals are indicated by The harness symbol is in () following the harness symbols (refer to P-7.). ... Routing diagram • The routing diagram shows ... View topic - HELP!! with stereo wiring Sep 22, 2010 — Hey guys im in a bit of a pickle was wondering if anyone could help. Im trying to wire my stero up in my new laser and im a bit stuck heres ... ABS Car Stereo Radio Player ISO Standard Wiring ... ABS Car Stereo Radio Player ISO Standard Wiring Harness Connector 13 Pin Plug Cable for Mazda 2 2003-2006 DY Ford Escape 2006-20 ... Ford Laser KQ 2001-2002. For ... Car ISO Wiring Harness Adaptor Stereo Wire Cable ... Buy Car ISO Wiring Harness Adaptor Stereo Wire Cable ISO Radio Plug Adapter Connector for Ford Escape Ranger For Mazda 2 3 6 at Aliexpress for . Ford Laser Lxi, Factory Headunit Removal. Jun 20, 2012 — Ok so the oem headunit is removed and im now faced with a array of wires and 2 wiring harness, 1 of the harness has the rear speakers in it and ...