

Security of Distribution Mechanisms for Linux and BSD Operating Systems

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Abstract—The abstract goes here.

I. INTRODUCTION

An operating system is a software that manages computer hardware resources and provides a variety of services for computer programs. The central core of an operating system, its kernel, is the first layer above hardware itself. Due to of the depth of their functionality, operating systems can potentially yield a great deal more power to an attacker, if the system is compromised, than application software can. Operating systems can be compromised by malicious computer software, such as rootkits, following normal operation, although attacks can sometimes be launched more easily against the distribution process itself, in such a way that users unknowingly install a modified version of the expected operating system. If uncaught, attacks that result in the distribution of a compromised operating system can be both exceedingly difficult to detect and exceedingly powerful in their effect. The open-source model possesses some unique vulnerabilities compared to its closed- or shared-source counterparts. Open-source operating systems often have much smaller core development teams than do the popular Windows and OS X systems. Open-source software is not always available on physical media, unlike for example, Windows, which is commonly installed from disc. The storefront websites that are requisite for online distribution of proprietary software also provide a significant barrier that attackers targeting free software would not have to overcome.

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II. DISTRIBUTING AN OPERATING SYSTEM

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A. Building a Release

Body of text goes here...

- 1) *Compiling into ISO*: Body of text goes here...
- 2) *Overseeing Release*: Body of text goes here...

B. Mirroring a Release

Body of text goes here...

- 1) *Mirror Qualifications*: Body of text goes here...
- 2) *Fetching Release*: Rsync, Zsync...

C. Distribution Methods

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- 1) *HTTP*: Body of text goes here...
- 2) *FTP*: Body of text goes here...
- 3) *BitTorrent*: Body of text goes here...
- 4) *Physical Media*: Body of text goes here...

III. ATTACKS ON DISTRIBUTION

Body of text goes here...

A. "Attack One"

Body of text goes here...

- 1) *Notable Usage*: Body of text goes here...
- 2) *Countermeasures*: N operating systems currently implement these countermeasures, including Foo, Bar, Baz...
Visual aid goes here

B. "Attack Two"

Body of text goes here...

- 1) *Notable Usage*: Body of text goes here...
- 2) *Countermeasures*: N operating systems currently implement these countermeasures, including Foo, Bar, Baz...
Visual aid goes here

IV. EXTERNAL RISKS

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A. Re-Hosting and Ownership Hijacking

Body of text goes here...

- 1) *SourceForge*: Body of text goes here...

V. BEST CONSUMER PRACTICES

A. Choosing a Protocol

Body of text goes here...

B. Verifying Mirrors

Body of text goes here...

C. Building a Web of Trust

Body of text goes here...

D. “Soft” Risk Mitigation

Sometimes it is best to rely on proven-stable releases. It can be harmful to be on the bleeding edge of development, although it is a service to the industry.

VI. OUR IMPLEMENTATIONS

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VII. CONCLUSION

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REFERENCES

- [1] H. Kopka and P. W. Daly, *A Guide to L^AT_EX*, 3rd ed. Harlow, England: Addison-Wesley, 1999.