

Ontology of Risk

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Research objective

To improving public safety by helping individuals to make informed choices about disclosing personal information online

Research questions

- What is the nature of the risks that individuals face when using the internet?
- Is there a typology of online risk?
- Can a risk typology be applied to existing empirical data to refine the privacy calculus?
- Are there analytical techniques from the safety engineering, insurance and security sectors that could be applied to personal online risks?
- Can we develop predictors of risk exposure?

Exercise I: What risks do you face when you are online?

- Think about the types of transactions that take place when you are online
- What personal data do you disclose online?
- Are there particular risks associated with disclosure of personal data?

Risks identified by participants


- Nudged/Influenced
- Polarisation of debate (thinking fast)
- Perception distorted/warped
- Misinformation
- Outdated information
- Misinformed
- Abuse
- Bullying
- Cyberbullying
-
- Catfishing
- Stalkers
- Doxing / stalking
- Predators
- Doxing (outing)
- Cults
- Traumatic content
- Safety
- Theft – financial
- Identity theft
- Privacy
- Virus – damage – reputation
- Fake products (Dangerous)
- Personalisation (limiting your choices)
- Exploitation for commercial gain
- Financial
- Aggregation (personality profiling)
- Personal space invasion

- Phishing (fake website, email, text, phone calls)
- Downloading software (virus, malware, redirect links)
- Hacking (online, phone)
- Connected device (IoT)
- Scamming
- Sesame (China)
- No control of "own" information – credit rating, insurance risk
- Ransomware
- Location

Ontology tools

- Synaptica Graphite system – for ontology creation and management
- Microsoft Excel – for bulk data import and export
- NodeXL – for graphic display of relationships

Synaptica Graphite KOS

 **Concept Manager**

Online RiskDavidHaynes [Project Admin]

en

[Hierarchy](#) [Collections](#) [Advanced Search](#) [Search Results](#)

☒ Move ☐ Copy en

- > [Harm +](#)
- > [Literature +](#)
- ✓ [Risk consequence +](#)
 - Criminal targeting +
 - Feeling of loss of control +
 - Financial loss +
 - Harassment +
 - harrassment +
 - Identity theft +
 - Intellectual property theft +
 - Loss of liberty +
 - Physical harm +
 - Psychological harm +
 - Targeting by authorities +
- ✓ [Risk event +](#)
 - Criminal targeting +
 - Discrimination +
 - Feeling of loss of control +
 - Hacking +
 - Harassment +**
 - Identity theft +
 - Intellectual property theft +
 - Malware +
 - Poor privacy control +
 - Targeting by authorities +
 - trolling +

[Concept](#) [Export](#) [Import](#) [Audit Trail](#)

Harassment

Assigned class: [HaynesClass](#) [Class Assignment](#) [Collection Assignment](#)

Top Concept In Scheme: Risk event

leads to (HaynesOnto) 2

- Physical harm ✖
- Psychological harm ✖

References (DCT) 0


Preferred Labels

Label +

Harassmenten✖

Metadata

Status: Candidate

URI: <https://graphite.synaptica.net/4c2f8b09-f36f-4942-a049-88ede89d7c8a> 

Scheme: Risk event

Modified By: DavidHaynes

Modified At: 2019-01-22T16:12:22+00:00

Graphite KOS © 1995-2019 by Synaptica 1.2.5.20181031

Hierarchy

- > Harm +
- > Literature +
- ✓ Risk consequence +
 - Criminal targeting +
 - Feeling of loss of control +
 - Financial loss +
 - Harassment +
 - harrassment +
 - Identity theft +
 - Intellectual property theft +
 - Loss of liberty +
 - Physical harm +
 - Psychological harm +
 - Targeting by authorities +
- > Risk event +

Relationships

Concept [Export](#) [Import](#) [Audit Trail](#)

Harassment

Assigned class: [HaynesClass](#) [Class Assignment](#) [Collection Assignment](#)

Top Concept In Scheme: **Risk consequence**

| | |
|---|---|
| consequence of (HaynesOnto) | 3 |
| Discrimination ✖ Hacking ✖ Poor privacy control ✖ | |
| results in (HaynesOnto) | 0 |
| References (DCT) | 0 |

Concept [Export](#) [Import](#) [Audit Trail](#)

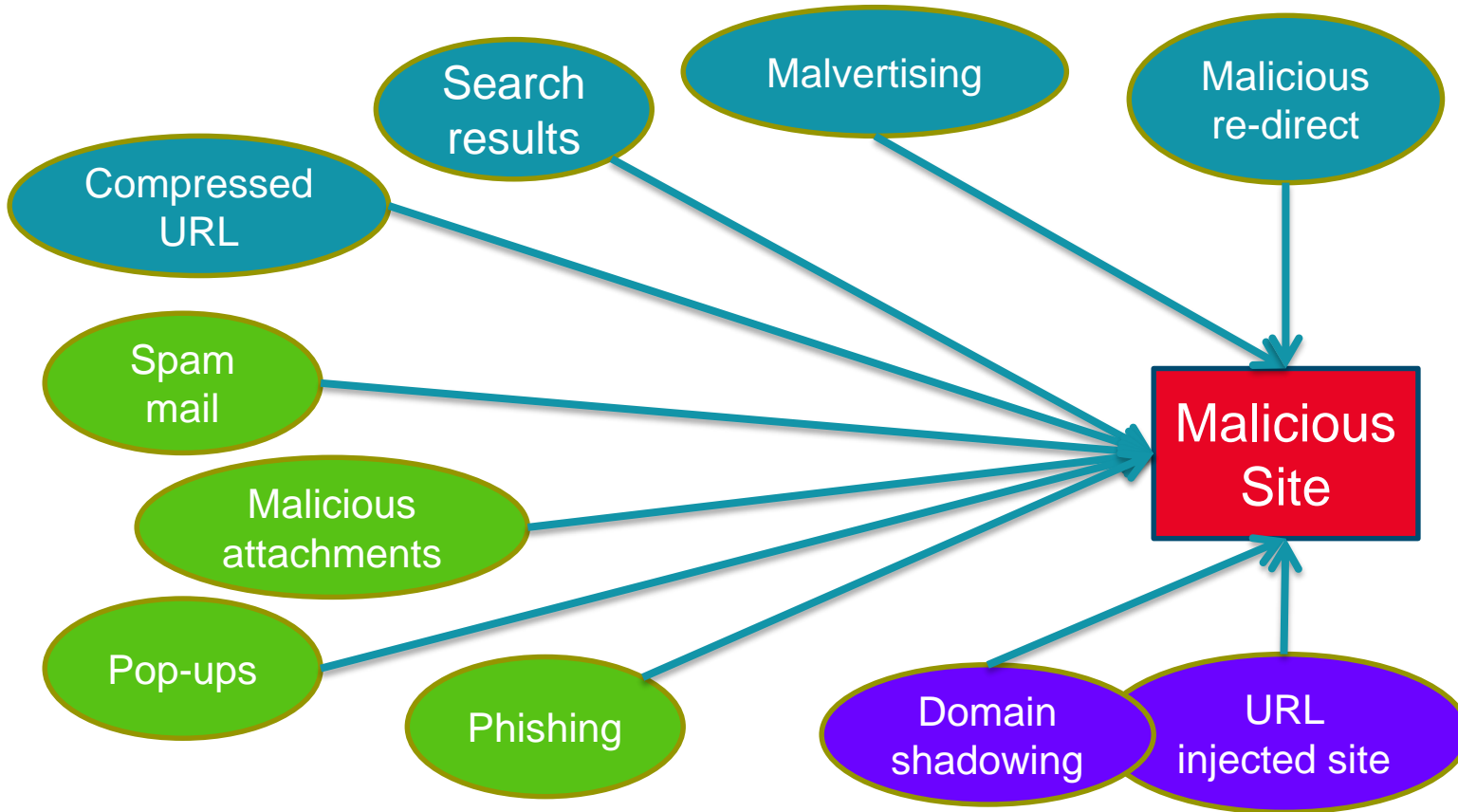
Harassment

Assigned class: [HaynesClass](#) [Class Assignment](#) [Collection Assignment](#)

Top Concept In Scheme: **Risk event**

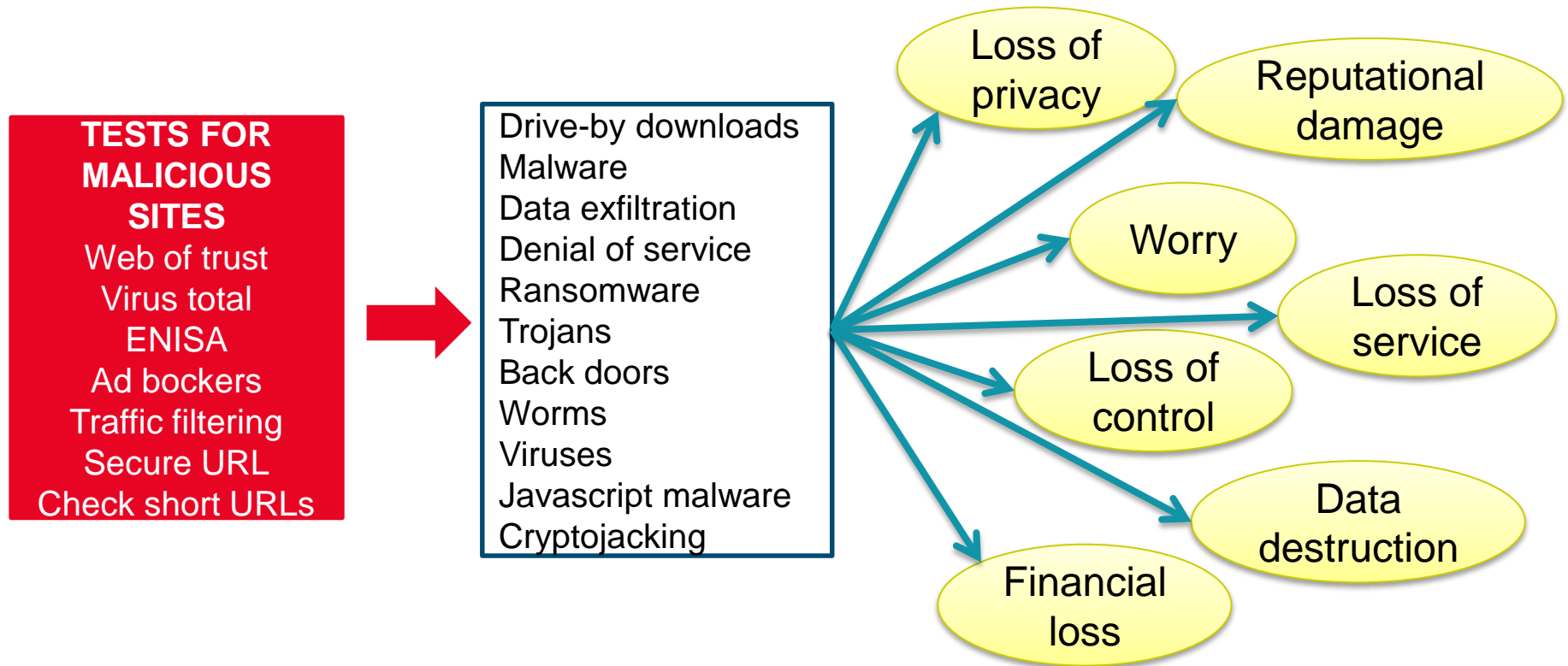
| | |
|--------------------------------------|---|
| leads to (HaynesOnto) | 2 |
| Physical harm ✖ Psychological harm ✖ | |
| References (DCT) | 0 |

Models of Risk – I



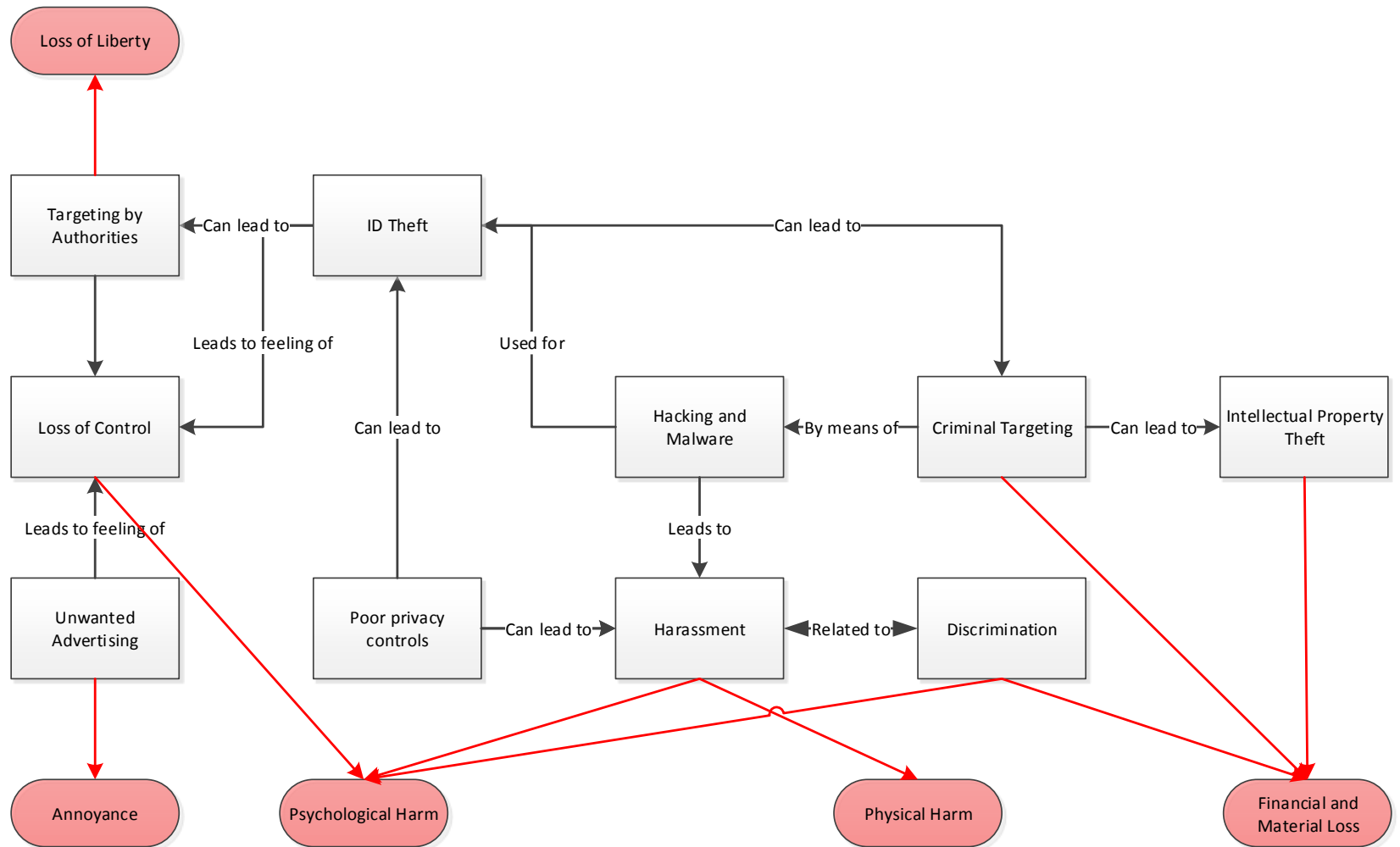
What could lead an individual to a malicious site?

Models of Risk – II



What are the potential consequences?

Models of Risk – III



Exercise II: Are there ways in which we can group these risks together?

- Write one risk per post-it note (Blue or Black pen)
- Work together to group the risks together
- Use a Green pen [on a post-it note] for relationships
- If you disagree with a grouping put an X with a red pen in the corner of the affected post-it note

Two suggested categorizations (provided by participants)

Person-centred approach

- Physical
- Mental/Emotional/Beliefs
- Relationships
- Ethics
- Identity and Background
- Death
- Income, employment, assets, money

Risk-based approach

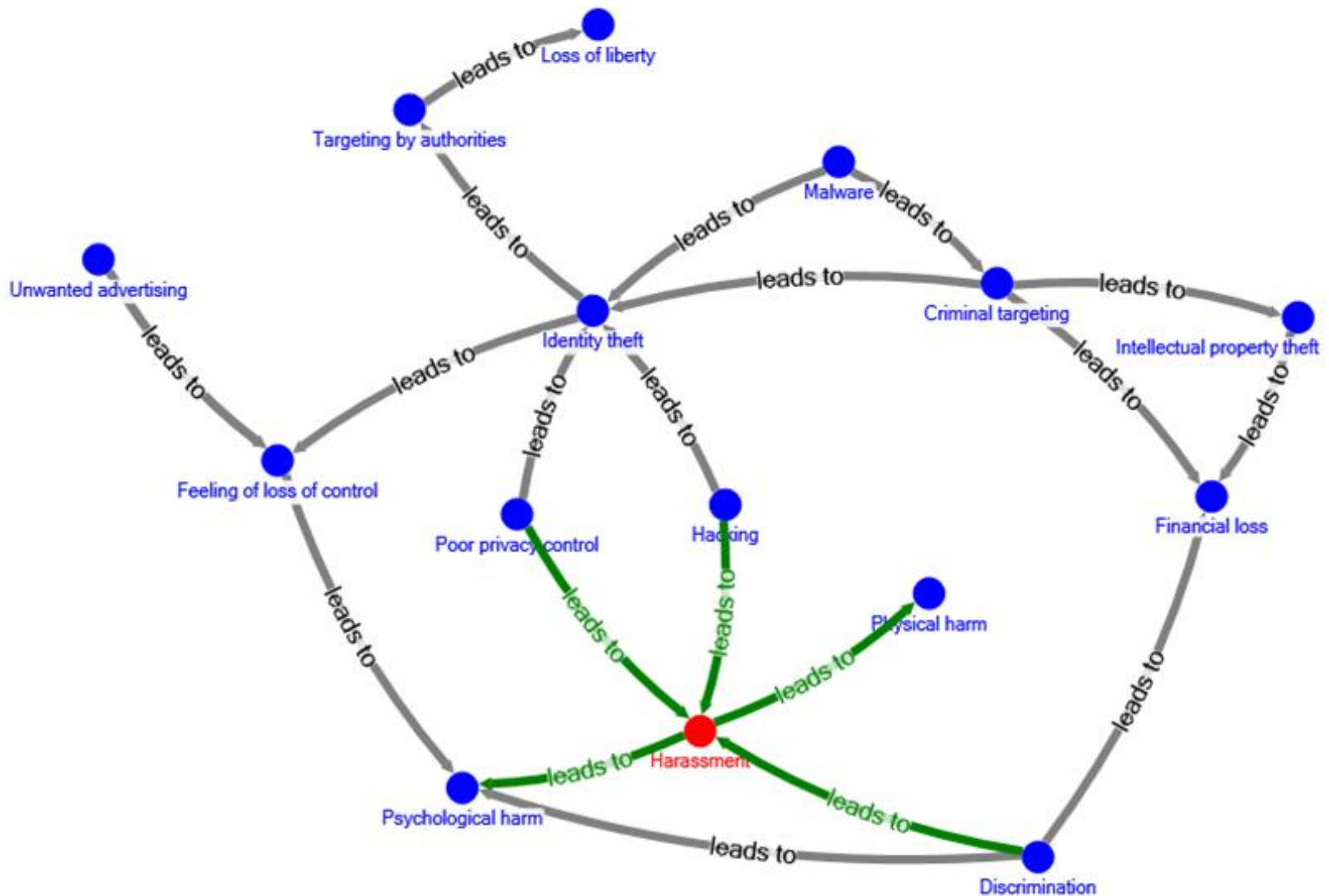
- Theft
 - Identity
 - Financial
 - Assets/IP
- Fraud
 - Catfishing
- Coercion
 - Manipulating arguments
 - Belief system
 - Debating and hot topics
- Blackmail

Impact

- Contribute to public safety online
- Better understanding of the nature of online risk
- Tool for use by the insurance industry to improve risk estimates
- Inform future research

Data Graph of a Risk Ontology

(one risk and its relationships highlighted)



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