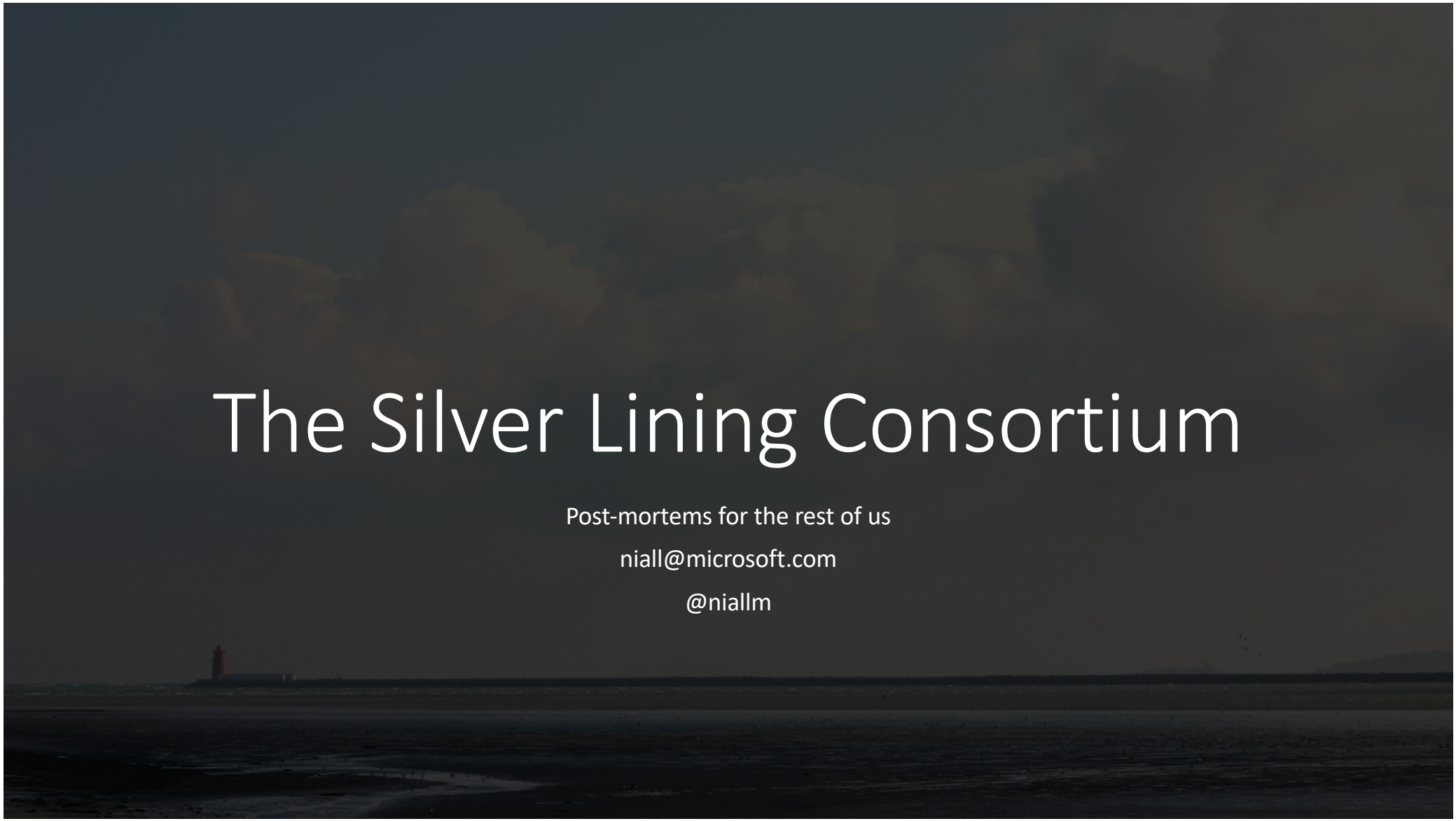


The Silver Lining Consortium

Post-mortems for the rest of us

niall@microsoft.com

@niallm



Let's talk about post-mortems.

- *Disclaimer:* I am **not** singling out any provider. I understand everyone has demanding day jobs, and we're all just doing our best. Appearance in this talk indicates neither disapproval nor favour of a company, product, service, conduct of a department, function, or notional aspiration. Some of my best friends use <X>, for all X in the talk. Based on completely publicly available materials. Contents may have settled in transit. Do not taunt Happy Fun Ball. #hugops

Photo by Mathew Schwartz on Unsplash

A Sampling of Post-Mortems

Via https://github.com/danluu/post-mortems

Org	Year	Timeline data points	Impact	Preventative steps	Follow-up	Largest contrib factor	Graphs	Abject personal apology
Cloudflare	2013	2	Accurate	Yes	No	Vendor router OS error	1	
Facebook	2015	2	Unknown	No	No	None	0	
Google	2018	6	Accurate	Yes	Yes	Internal software bug	0	
Google	2018	5	Coarse	Yes	No	Internal software bug	0	Yes
Microsoft	2014	3	Coarse	Yes	No	Internal software bug	0	
StackExchange	2014	6	Accurate	Yes	No	Misleading comment/human error	0	
Travis CI	2015	9	Accurate	Yes	No	Masked auth failure/monitoring failure	0	
Travis CI	2017	3	Accurate	Yes	No	Missing tag/config error	0	
Microsoft	2012	13	Coarse	Yes	No	Internal software bug	0	
Amazon	2017	5	Coarse	Yes	No	Typo/human error	0	
Discord	2017	22	Coarse	Yes	Yes	"It's complicated"	0	Yes
Gitlab	2017	7	Accurate	Yes	Yes	Typo/human error	0	
Slack	2014	2	Coarse	Yes	Yes	Internal software bug	0	Yes

Proposal

- Let's do the following things:
  - Make a structured format for PMs.
    - Includes mandatory fields, but allows some info hiding.
  - Make an industry consortium.
- The consortium would:
  - Centralise the collection, curation, and distribution of structured post-mortems.
  - Own and maintain the data format.
  - Make a search engine over the corpus, accessible primarily by consortium members.

What would we get if we did this?

- **Cloud platforms**:
  - Learn what their customers are having trouble with.
  - What approaches their customers tried.
  - Get a chance to learn best practices from each other.
  - Could share a commonly agreed set of standards for how to anonymise and do legal review. Could even implement this (via e.g. a secretariat).
- **Cloud consumers**:
  - Can see what other cloud consumers are having trouble with.
  - Share best practices as per above.
- **Researchers:**
  - Get access to a treasure trove of structured data, thus enabling research into human factors in on-call situations, insights via ML, and so on.
- **The industry:**
  - Common format for PMs creates impetus to structure outage data in a common way.
  - This leads to increased commonality of tooling & analysis approaches.
  - We might also get more signal about which distributed systems patterns suit which situations best.

Counterarguments

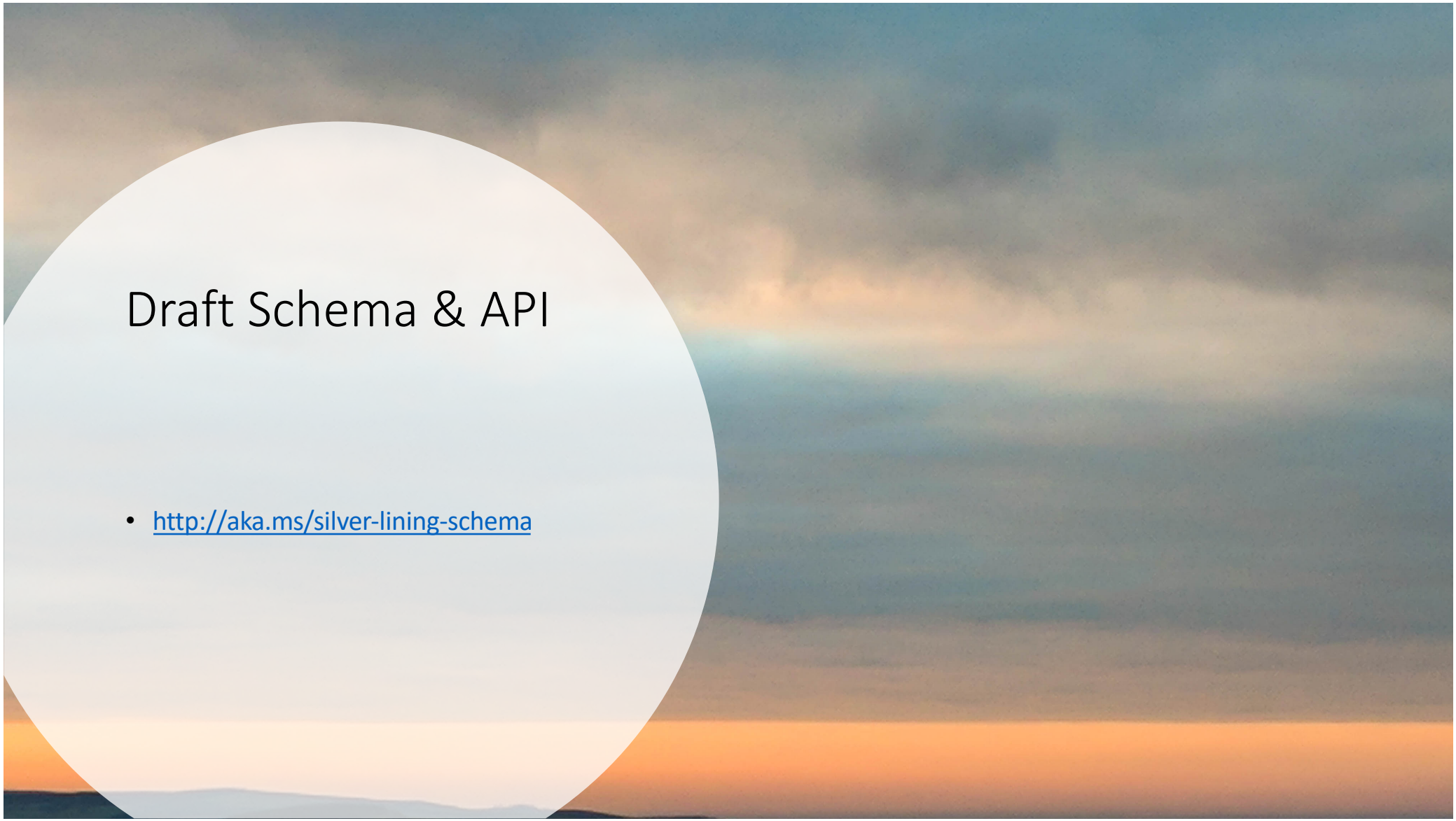
- **Companies would not want to disclose detailed reports of their mistakes.**
- **Companies don’t have the time to do anything sophisticated with their post-mortems.**
- **Standardised format for anything this variable is bonkers.**

How It Might Work

- Consortium needs a neutral identity.
- Joining & un-joining procedure.
  - Agree on basic principles, etc.
- Rights & obligations of membership.
  - Obligations:
    - To submit (lightly) structured post-mortems on a regular schedule.
    - Donation of time model.
  - Rights:
    - Access to the data at some time period before public release (say, one month)
    - Unlimited access to the search engine.
    - Access before critical mass is established.

How It Might Work II

- Corpus management:
  - Storage isn't a problem.
  - Need a process for retrospective addition of old PMs.
  - Need to adjust in-member process to include export step.
    - Tooling could be authored by consortium members to help.
  - On-demand or triggered model for adding PMs.
- Knowledge management:
  - Need a venue (online) to discuss the documents, evolution of schema, processes, etc.
  - Let's also say a 12-18 month meeting hosted by an interested consortium member.
    - The consortium needs an operations function so it can write post-mortems about itself :)
- Wind-up of consortium:
  - Releases all PMs and the format to the public domain.


Draft Schema & API
• http://aka.ms/silver-lining-schema

Call To Action

- Talk to me if you're interested!
  - After this session, in person
  - niall@microsoft.com, @niallm

