The background is a solid purple color. It is decorated with various abstract shapes in other colors: blue, green, orange, and red. These shapes include circles, elongated ovals, and diagonal stripes of varying widths. Some shapes are solid, while others are outlined. The overall effect is a vibrant, modern, and geometric pattern.

**DISTRIBUTED
SEARCH, BUT
FAST**

SEARCHER
CENTRIC
SEARCH

IN ONE

SPARQL QUERY

I WANT TO SEARCH

ALL DATA IN EXISTENCE

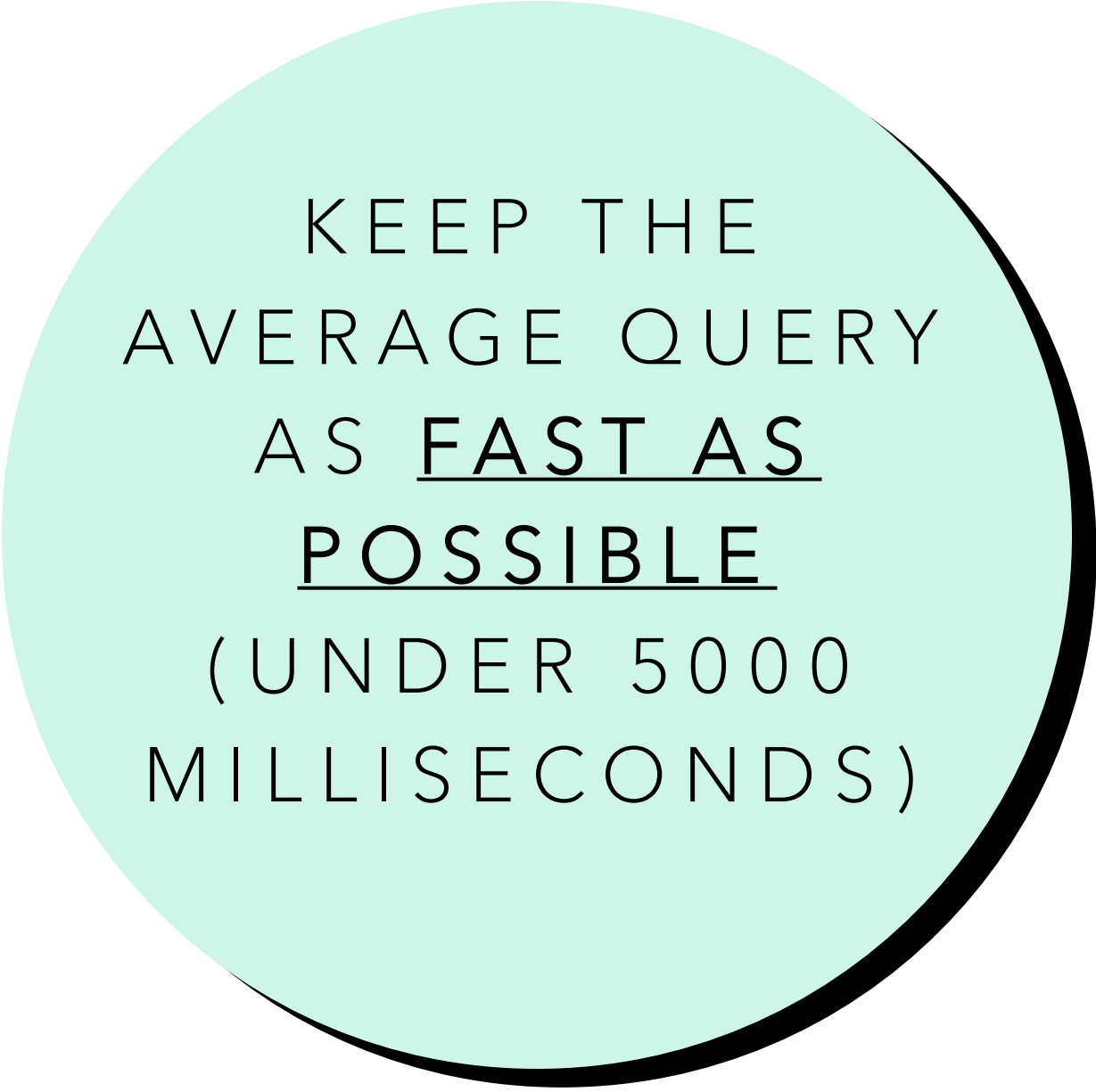
TO WHICH I HAVE BEEN

GRANTED ACCESS



1. "enable large-scale data search across Solid pods"
2. "respecting individuals' data sovereignty, considering individuals' different *access rights* and *caching needs*"
3. Keep the average query as fast as possible (under 5000 milliseconds)
4. Request count and duration remains constant as Pod quantity increases
5. Offload search compute from the data owner





KEEP THE
AVERAGE QUERY
AS FAST AS
POSSIBLE
(UNDER 5000
MILLISECONDS)



VS

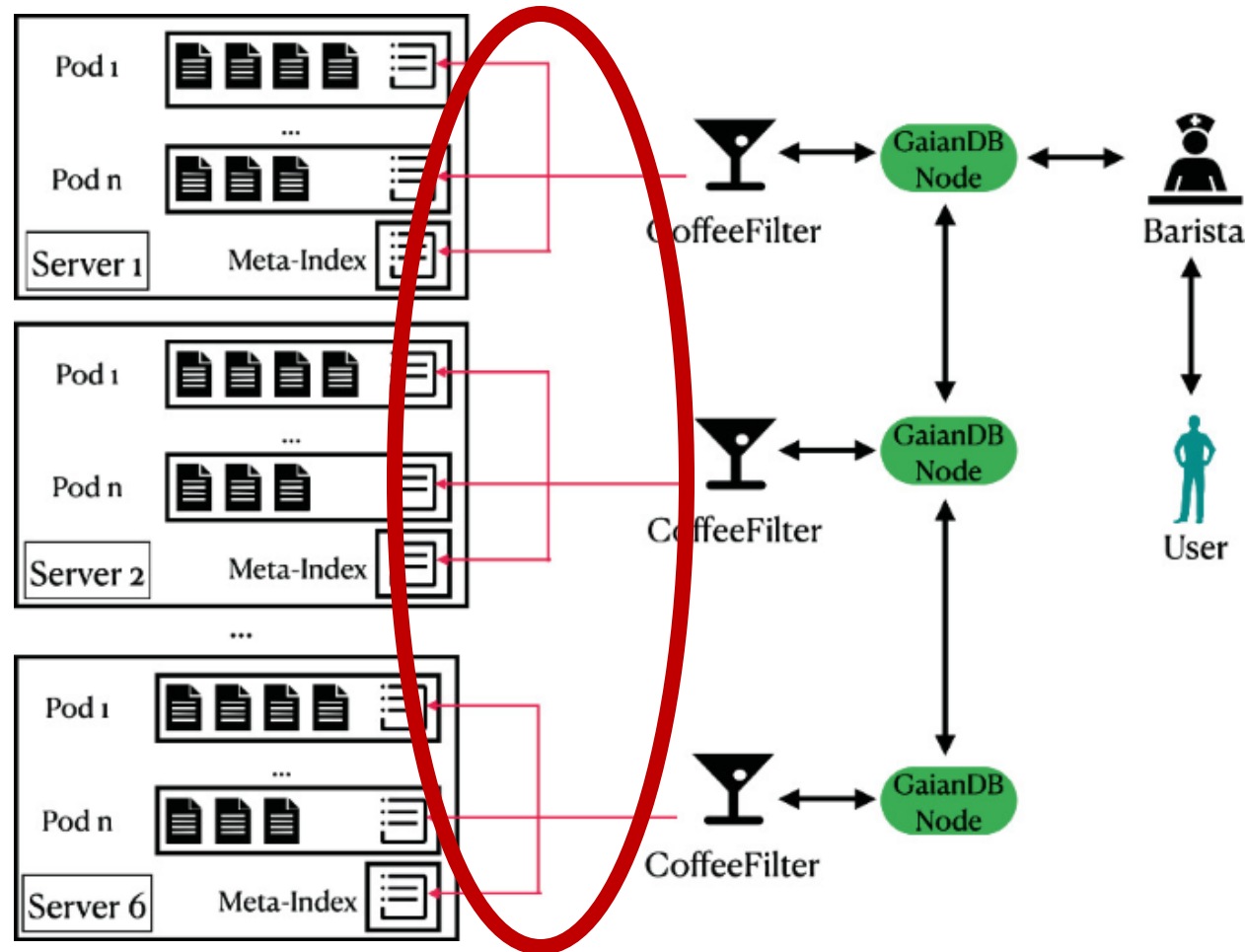


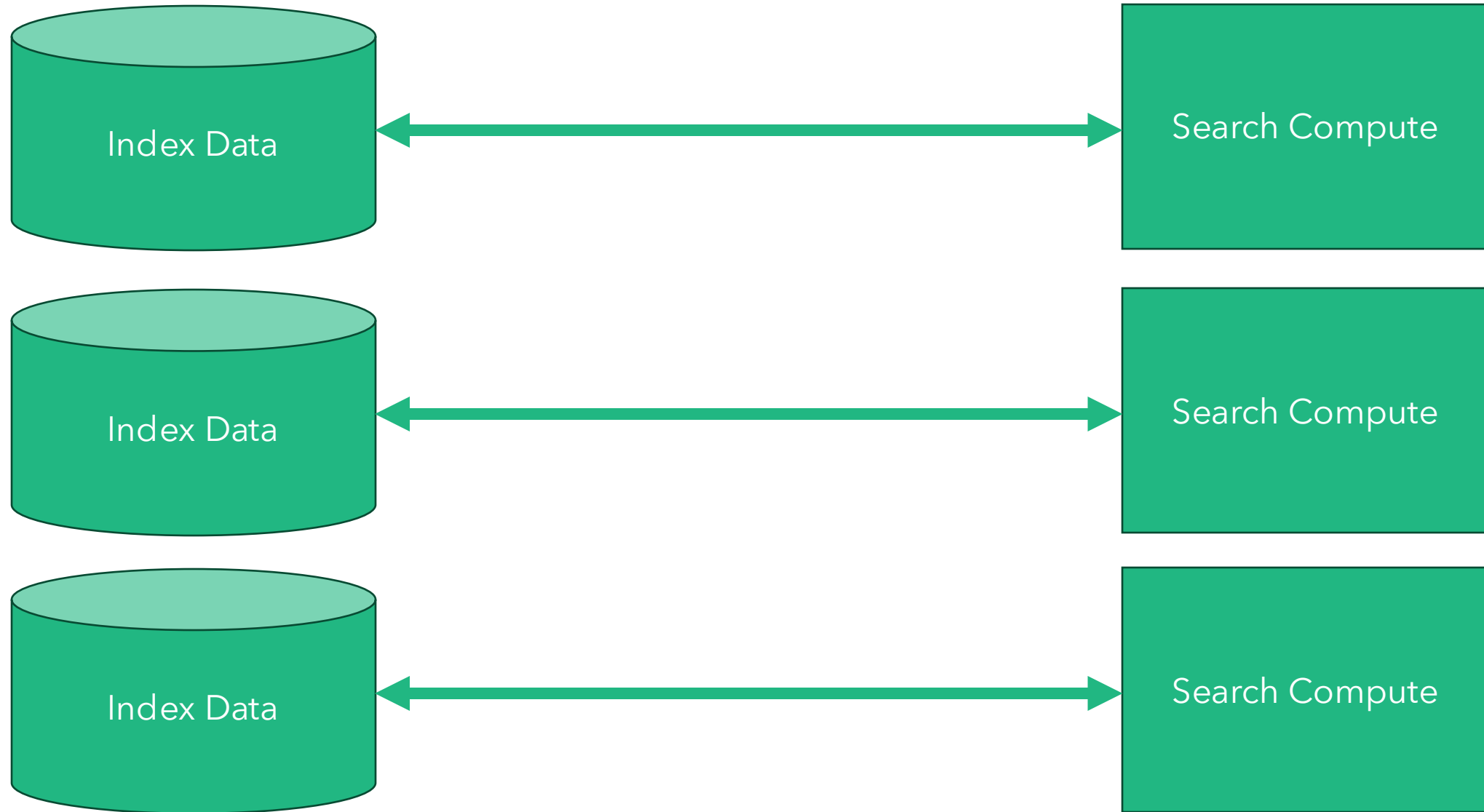
Attention	Category Name	SRT Range	Category Description
Attentive	Instantaneous	< 300 ms	User feels like they are in a closed-loop system; as if they are in direct control.
	Immediate	300 ms – 1 sec	Processes perceived by user as easy to perform.
	Transient	1 sec – 5 sec	Perceived by user as requiring some simple processing but user feels that they are making continuous progress (appropriate feedback required). It is unlikely a user would disengage from task flow.
	Attention Span	5 sec – 10 sec	Perceived by users as requiring more processing/wait time but user needs useful and informative feedback to stay closely engaged.
Non-Attentive	Non-attentive	10 sec – 5 min	Perceived by users as requiring more complex processing. Users would be likely to disengage and multi-task during this process. Feedback of progress is necessary.
	Walk-away	> 5 min	Perceived by users as requiring intensive processing. Users would not stay engaged with this task. Feedback of progress is necessary.

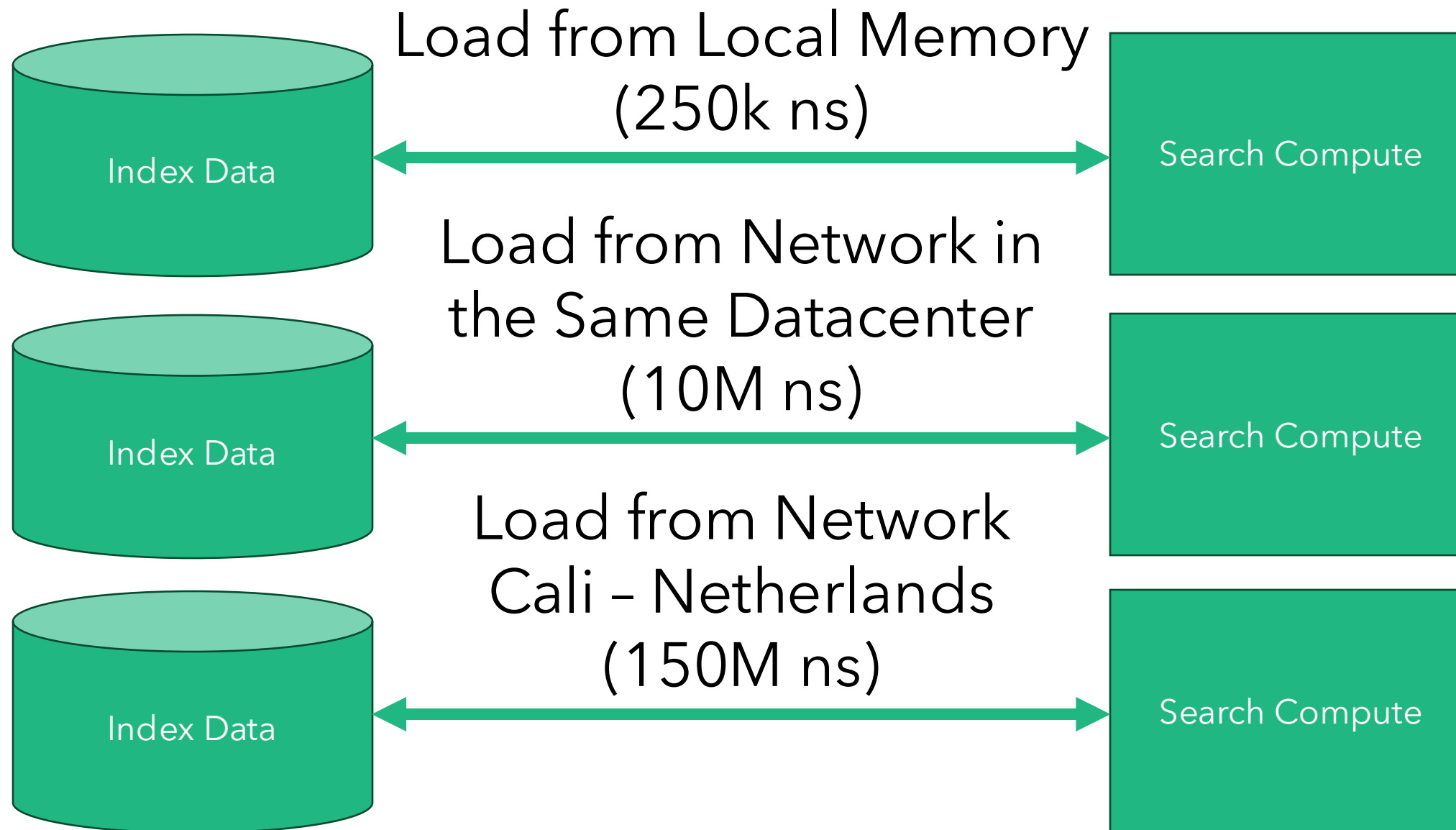


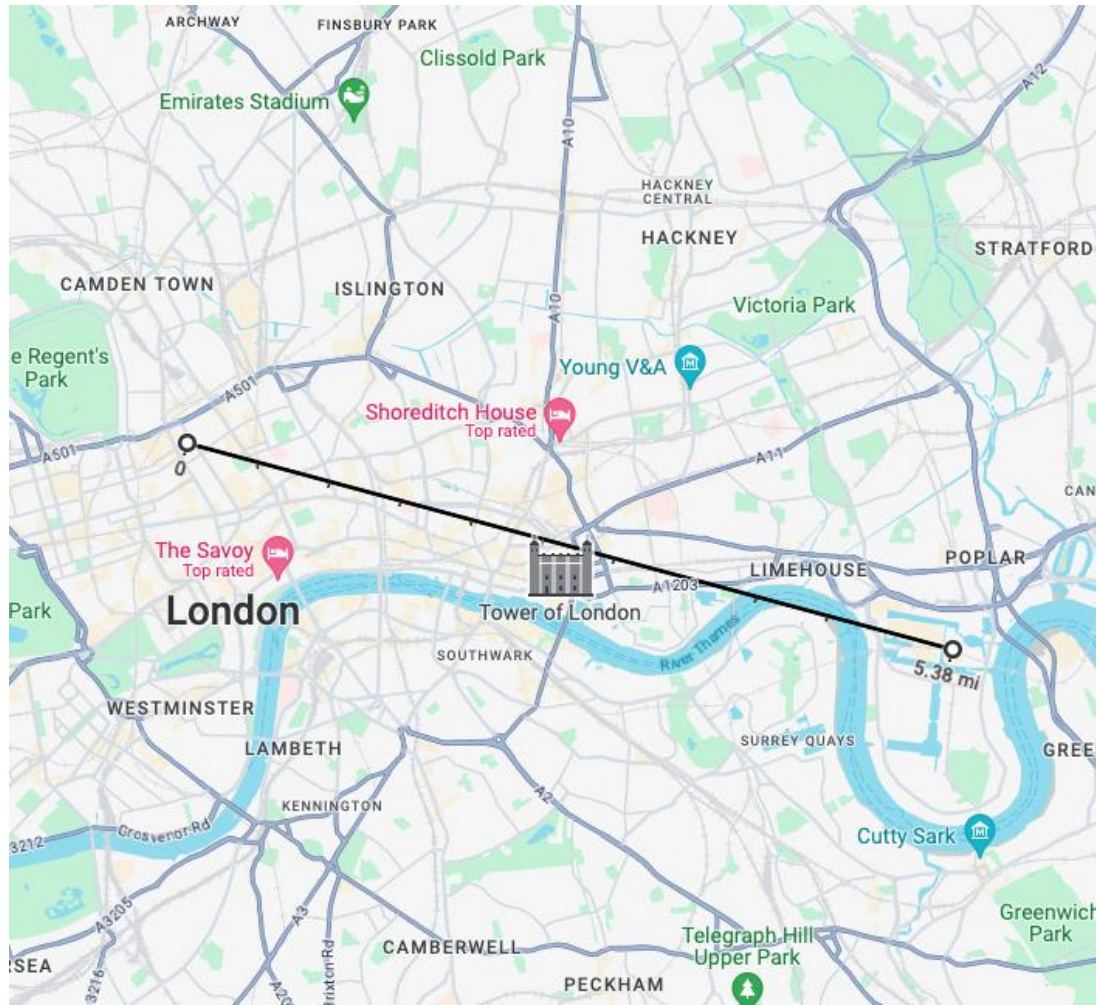
Dataset-1			1pod/server						24 pods total					
			Zipf N/A			Uniform Largest index 76.8 MB			Zipf Largest index 21.5 MB			Uniform Largest index 3.5 MB		
S	Kwd	Res	ST	RT	TT	ST	RT	TT	ST	RT	TT	ST	RT	TT
1	Kwd1	100				9898	28	9926	8964	25	8989	9045	26	9071
	Kwd2	12				9372	19	9390	7562	21	7583	6026	17	6043
	Kwd3	1	N/A			9463	17	9480	5431	17	5448	4468	16	4483
			Largest index 34.1 MB			Largest index 14.5 MB			Largest index 21.5 MB			Largest index 3.5 MB		
6	Kwd1	100	4132	20	4152	3957	89	4047	4726	20	4746	5363	47	5410
	Kwd2	12	3928	16	3944	3087	61	3147	4277	15	4291	2780	34	2813
	Kwd3	1	3988	16	4004	1883	39	1921	3482	16	3498	1911	40	1951

“...requires loading index files into memory to run SPARQL queries on them”









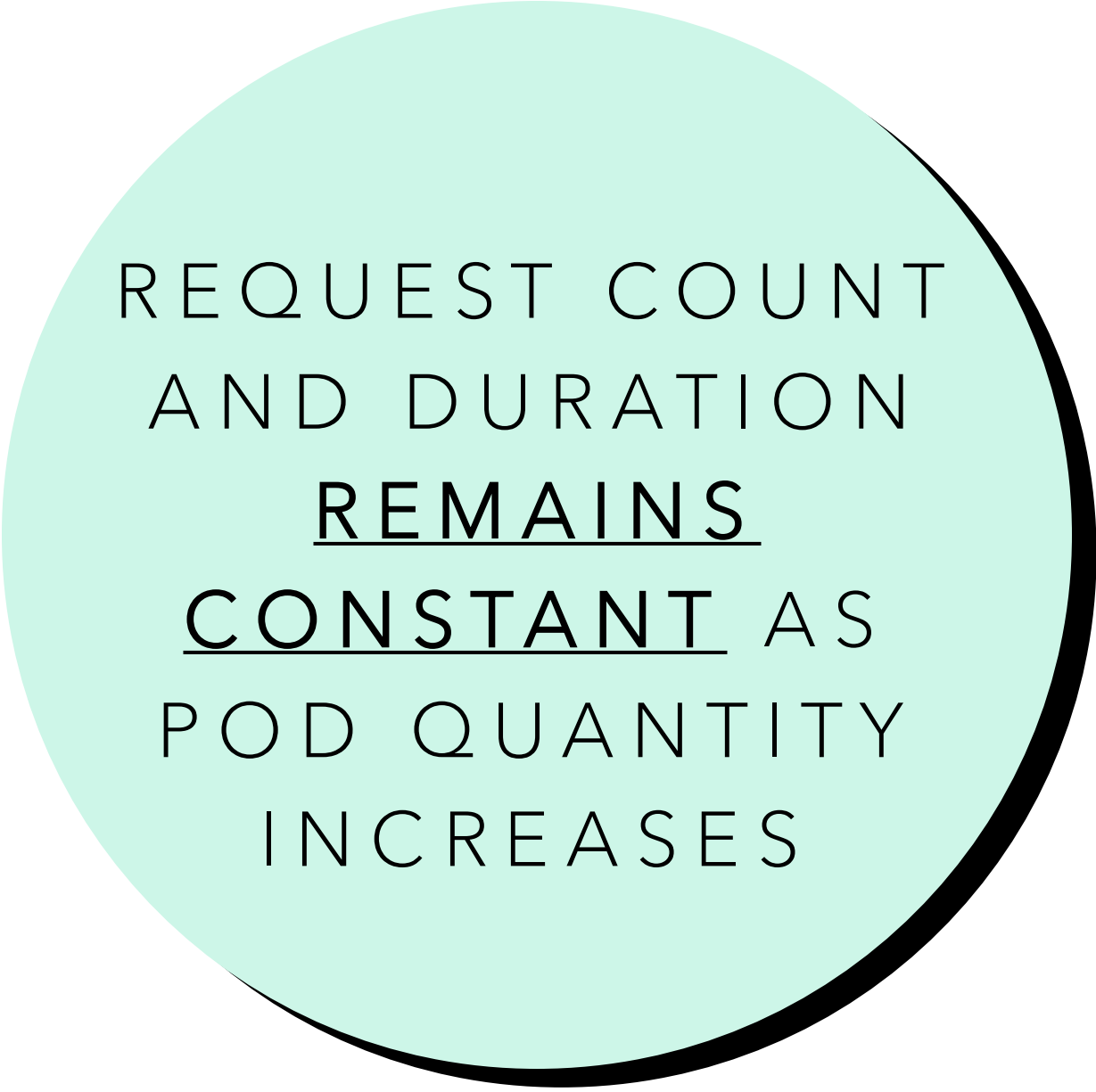


AVOID NETWORK REQUESTS
LIKE THE PLAGUE.

CO-LOCATE INDEXES AND
SEARCH COMPUTE.

"We believe that implementing a server-side querying paradigm will significantly enhance search component performance"

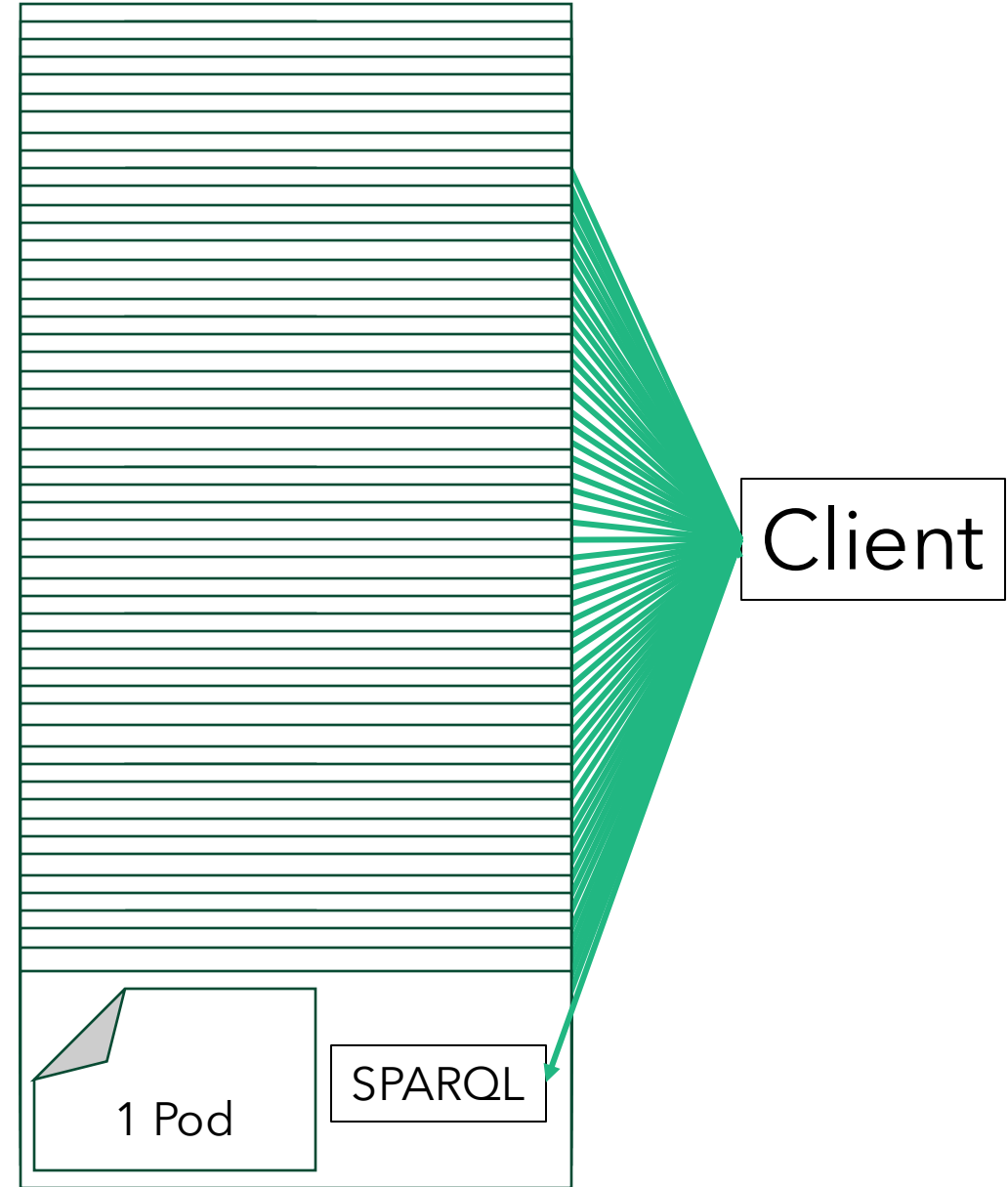
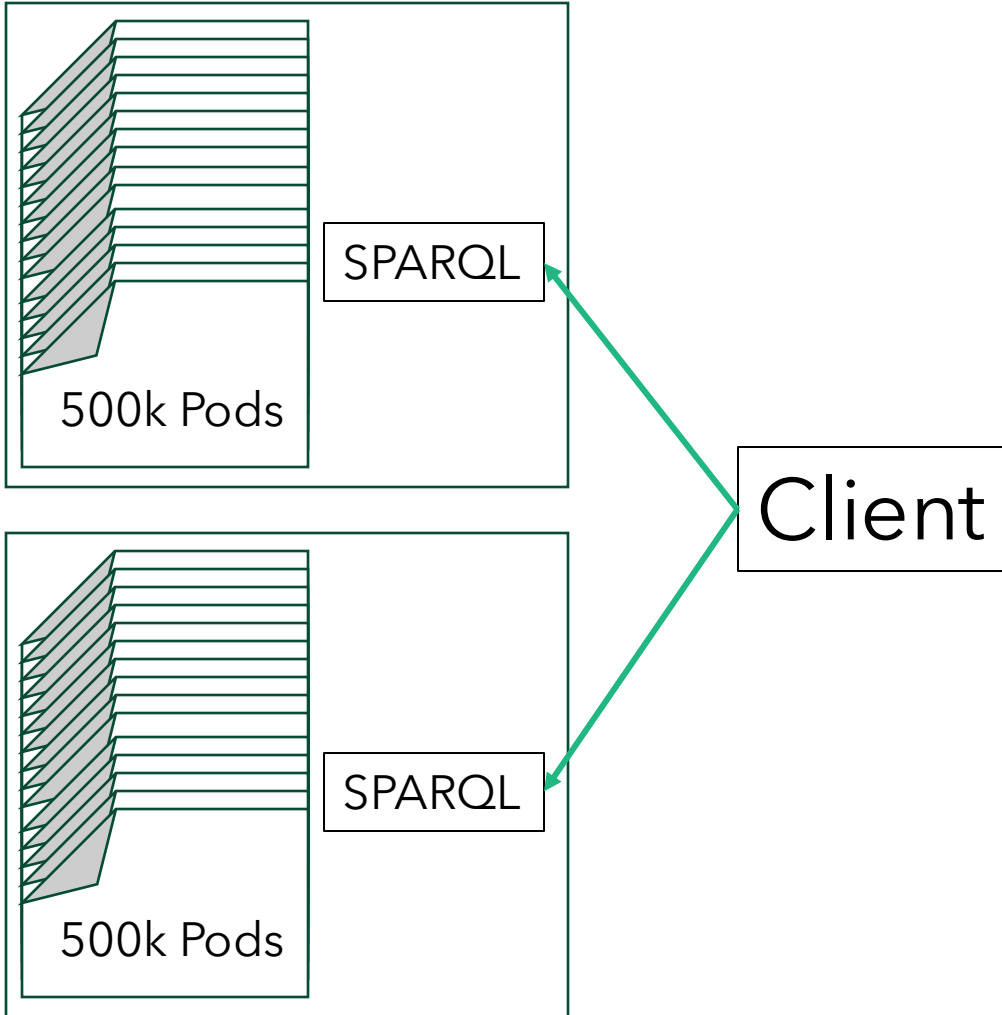


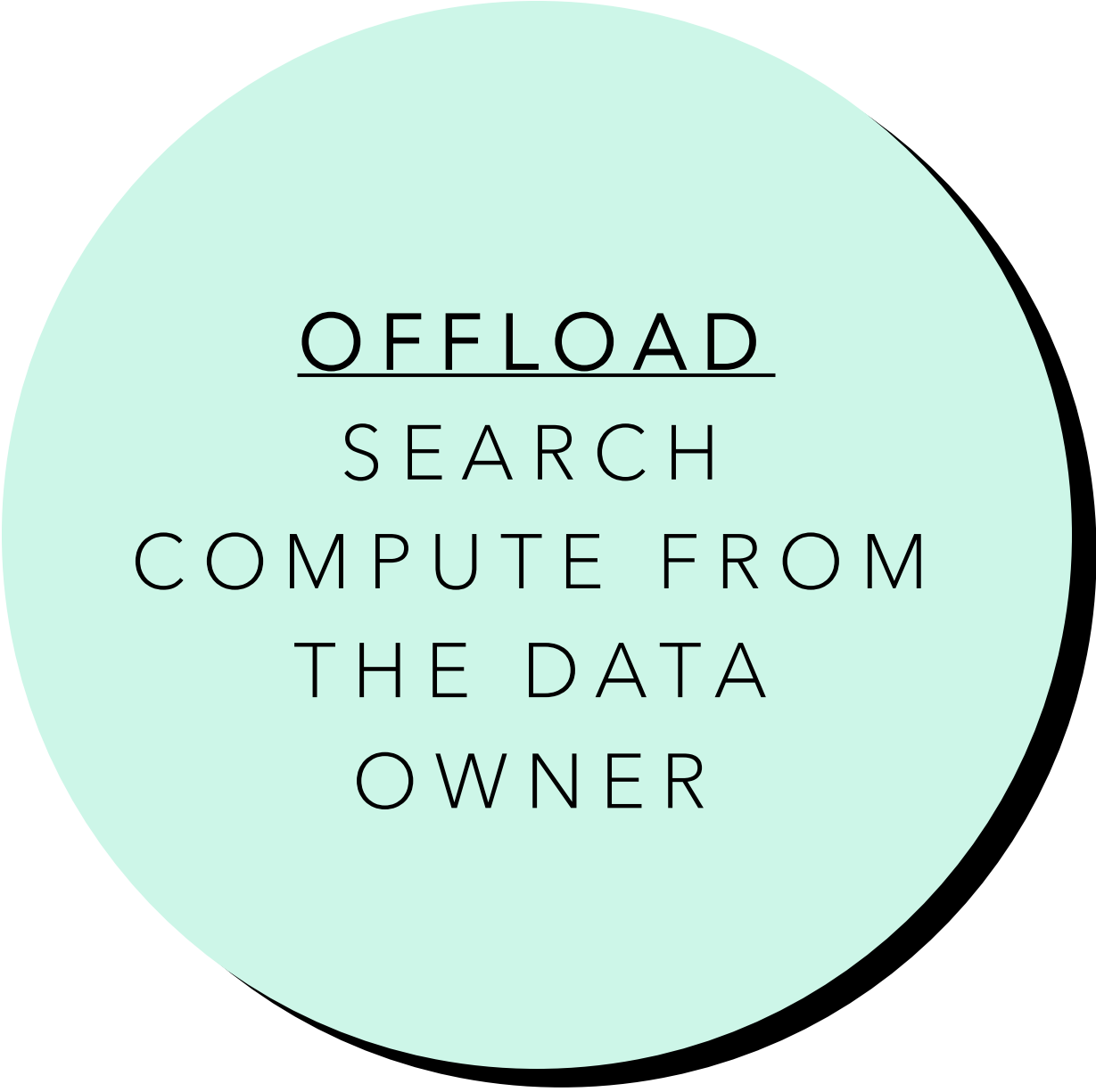


REQUEST COUNT
AND DURATION
REMAINS
CONSTANT AS
POD QUANTITY
INCREASES



SEARCH IN AN ECOSYSTEM
WITH TWO POD PROVIDERS
SHOULD BE ROUGHLY THE
SAME AS SEARCH IN AN
ECOSYSTEM WITH MILLIONS
OF POD PROVIDERS

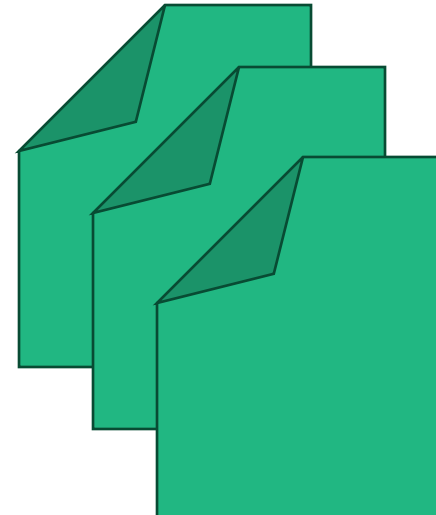




OFFLOAD
SEARCH
COMPUTE FROM
THE DATA
OWNER



\$0.005



FANDOM

FAN CENTRAL

GAMES

ANIME

MOVIES

TV

VIDEO

WIKIS

START A WIKI

Twilight Imperium Wiki


EXPLORE

FOURTH EDITION


OLDER EDITIONS

UNOFFICIAL EXPANSIONS


AD



Forget Retinol, Use This Household Item To Get Rid Of Wrinkles




Taking Metformin? Use This Household Food To Lower Blood Sugar



College Girls Who Are Prettier Than Supermodels

AD




Forget Retinol, Use This Household Item To Get Rid Of Wrinkles

Faction Abilities

- MITOSIS:** Your space docks cannot produce infantry. At the start of the status phase, place 1 infantry from your reinforcements on any planet you control.

AD



Forget Retinol, Use This Household Item To Get Rid Of Wrinkles

Faction Promissory Note

Stymie


ACTION: Place this card face up in your play area.

While this card is in your play area, the Arborec player cannot produce units in or adjacent to non-home systems that contain 1 or more of your units.


If you activate a system that contains 1 or more of the Arborec player's units, return this card to the Arborec player.

Stymie Ω


After another player moves ships into a system that contains 1 or more of your units:




The Barony of Letnev




The Clan of S.




The L1Z1X Mindnet



Planets and Systems




The Barony of Letnev




The Titans of Ul

AD




Forget Retinol, Use This Household Item To Get Rid Of Wrinkles




Taking Metformin? Use This Household Food To Lower Blood Sugar


AD



Forget Retinol, Use This Household Item To Get Rid Of Wrinkles



Forget Furosemide Use This Food To Help Drain Edema Fluid



Taking Metformin? Use This Household Food To Lower Blood Sugar

Follow on IG

TikTok

Join Fan Lab

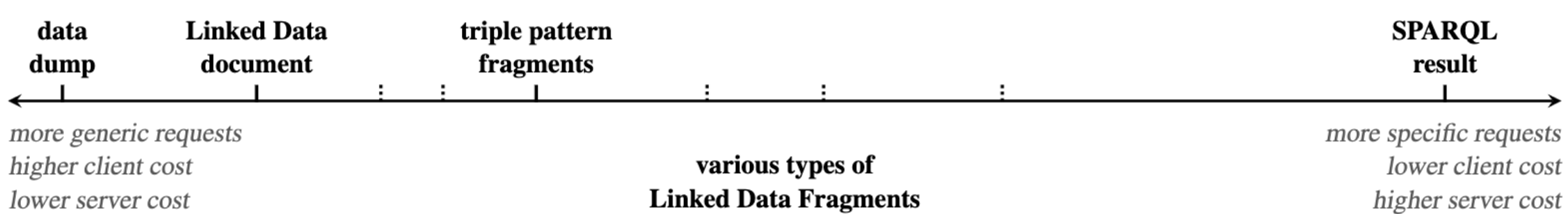
FROM "TRIPLE PATTERN FRAGMENTS: A LOW-COST KNOWLEDGE GRAPH INTERFACE FOR THE WEB"

- "The processing of individual requests is potentially very expensive"
- "the evaluation problem for SPARQL is PSPACE-complete"
- "The majority of public SPARQL endpoints had an uptime of less than 95%"



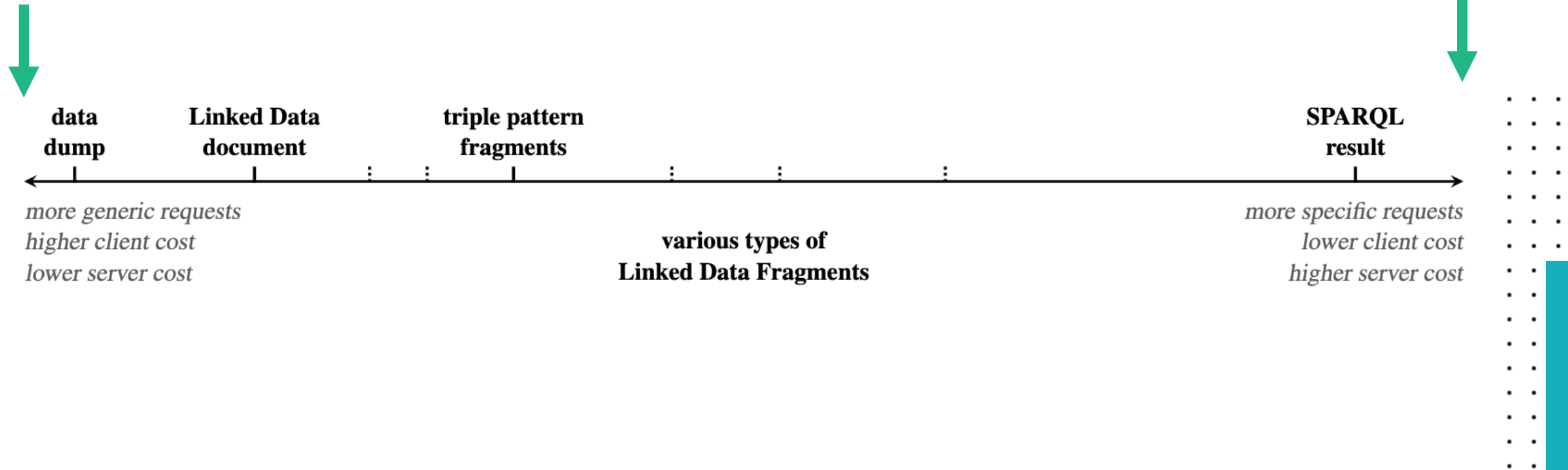


THE POD SHOULD NOT
BE THE THING THAT
PERFORMS SEARCH



OFFLOAD SEARCH
COMPUTE FROM
FROM THE DATA
OWNER

KEEP THE AVERAGE
QUERY AS FAST AS
POSSIBLE (UNDER
1000 MILLISECONDS)





SOLUTION:
SEARCHER
CENTRIC
SEARCH



PRIVATE INDEX

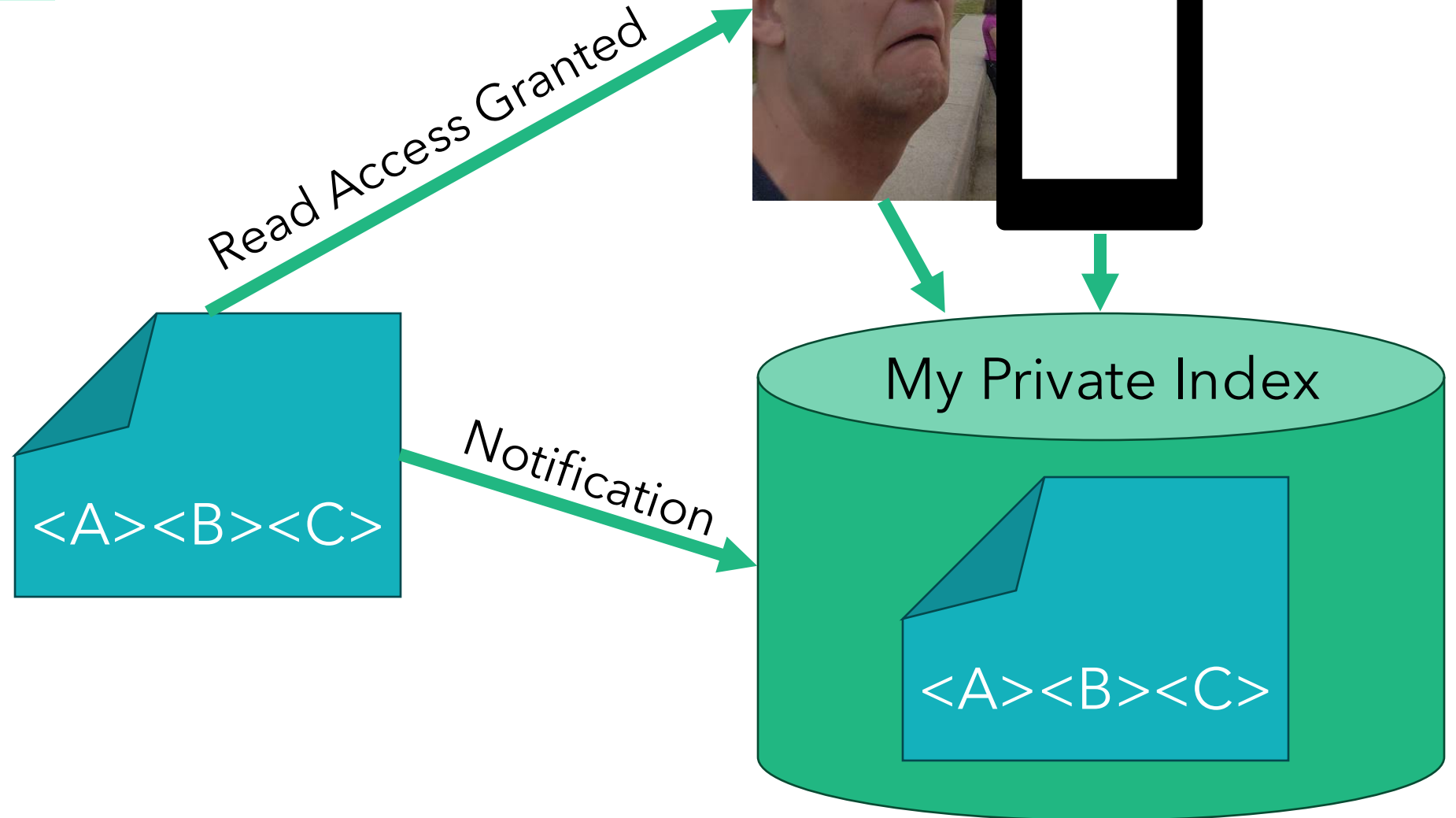


PUBLIC INDEX

PRIVATE INDEX

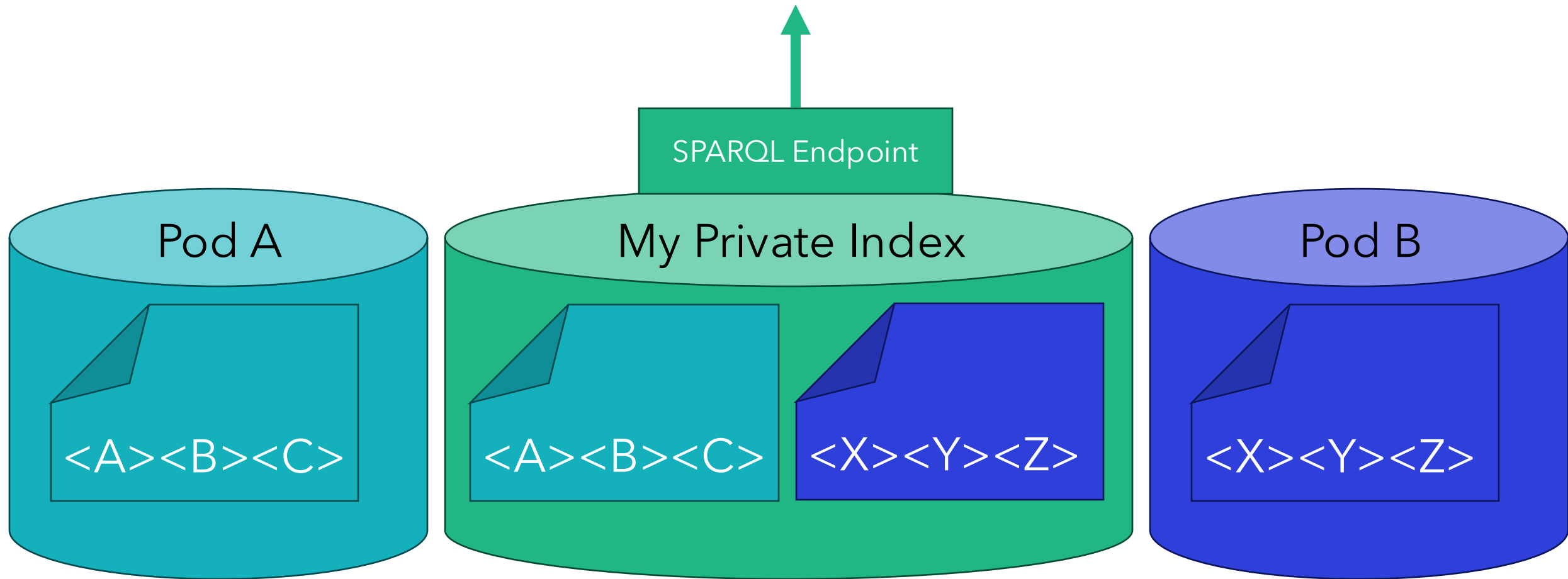


www.shutterstock.com · 66041614



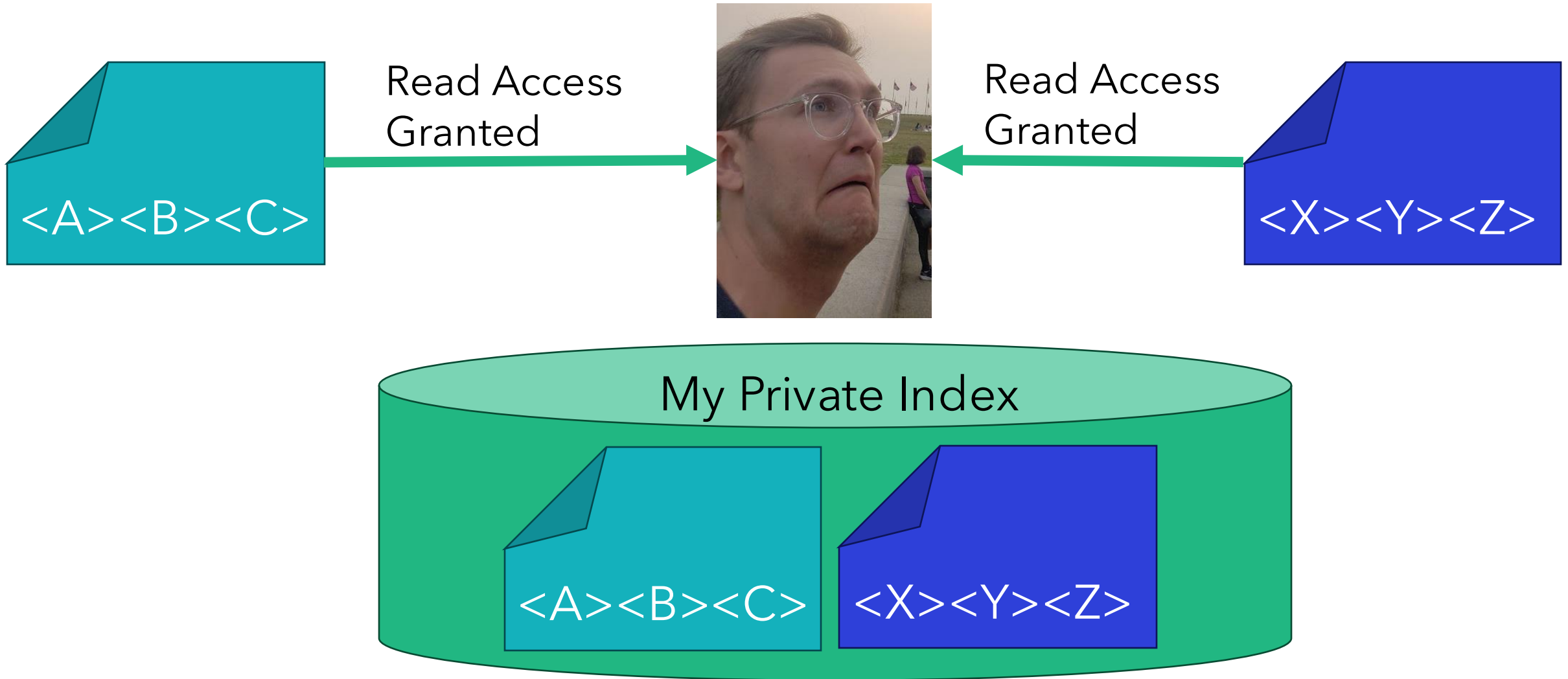
PRIVATE
INDEX

ENABLE LARGE-SCALE DATA SEARCH
ACROSS SOLID PODS



PRIVATE INDEX

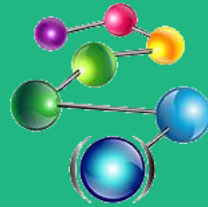
RESPECTING INDIVIDUALS' DATA
SOVEREIGNTY, CONSIDERING INDIVIDUALS'
DIFFERENT ACCESS RIGHTS AND CACHING
NEEDS



PRIVATE
INDEX

KEEP THE AVERAGE QUERY AS FAST AS
POSSIBLE (UNDER 5000
MILLISECONDS)

My Private Index



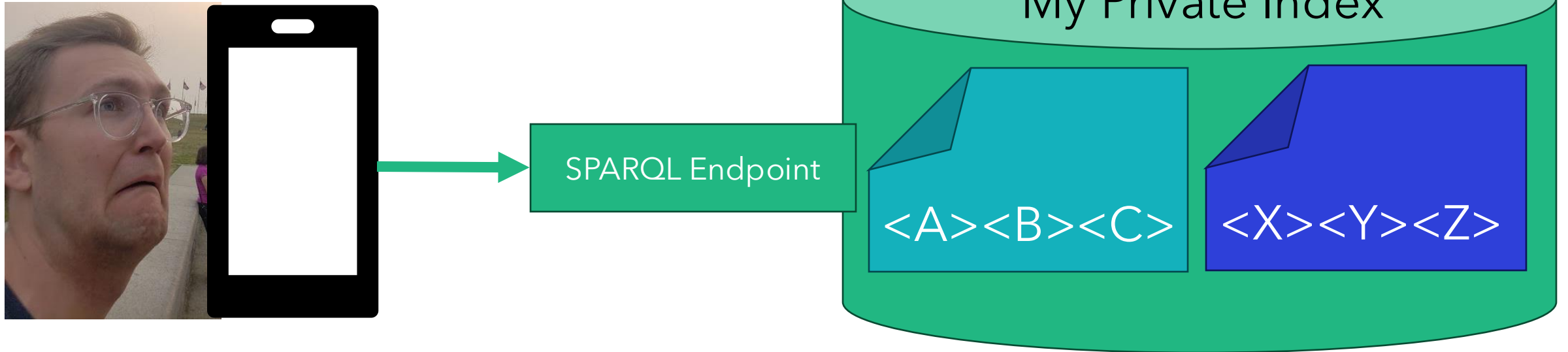
AllegroGraph



PostgreSQL

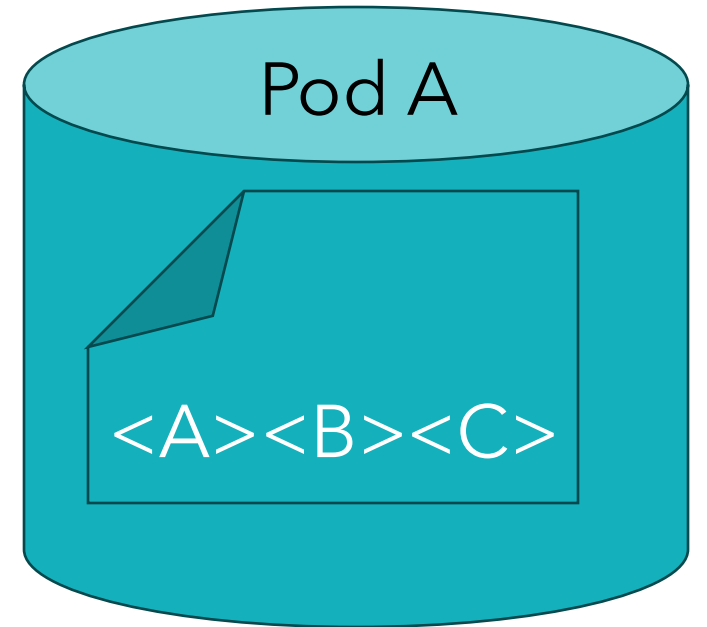
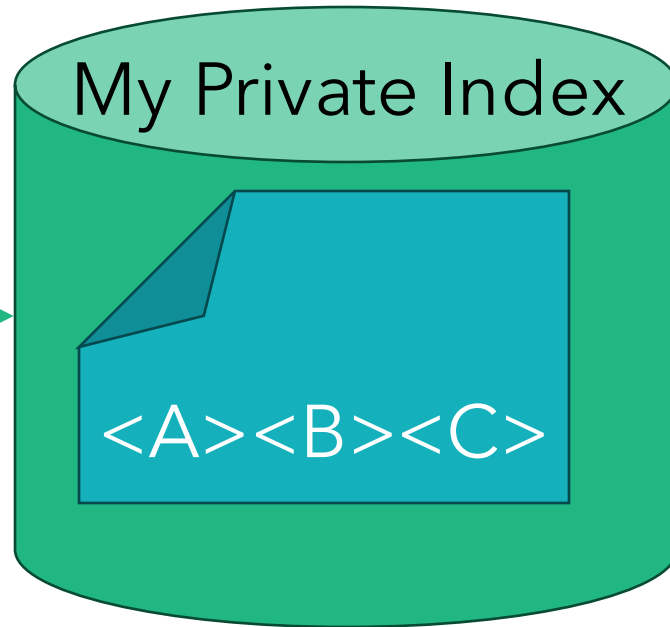
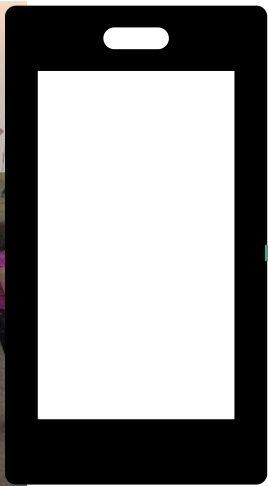
PRIVATE INDEX

REQUEST COUNT AND DURATION
REMAINS CONSTANT AS POD
QUANTITY INCREASES



PRIVATE
INDEX

OFFLOAD SEARCH COMPUTE FROM THE
DATA OWNER



PUBLIC
INDEX

Centralized Public Index A

<I><J><K>

<L><M><N>

Centralized Public Index B

<I><J><K>

<L><M><N>

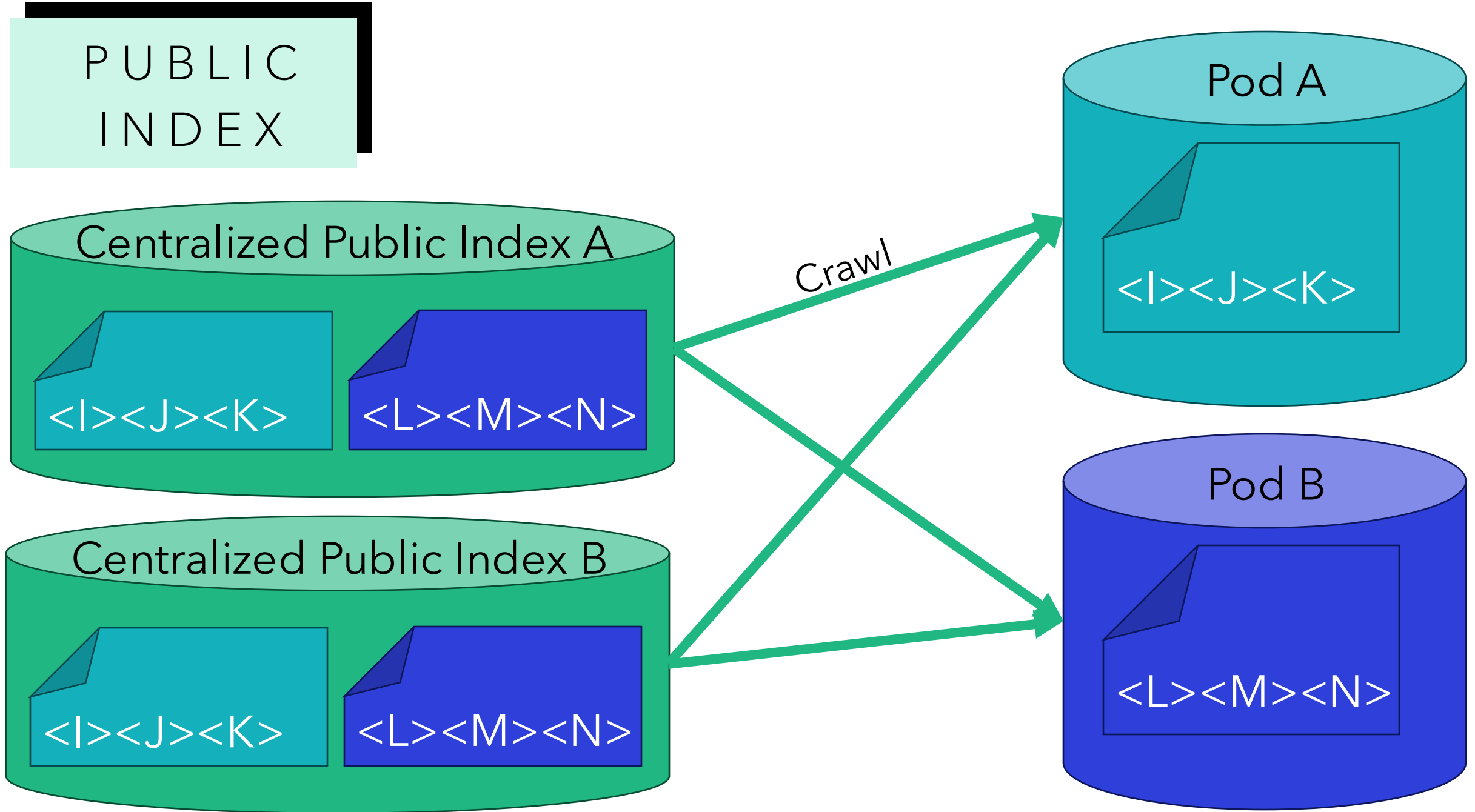
Pod A

<I><J><K>

Pod B

<L><M><N>

Crawl



PUBLIC
INDEX

Centralized Public Index A

<I><J><K>

<L><M><N>

Centralized Public Index B

<I><J><K>

<L><M><N>

Message
Queue

Pod A

<I><J><K>

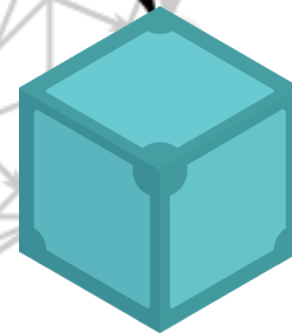
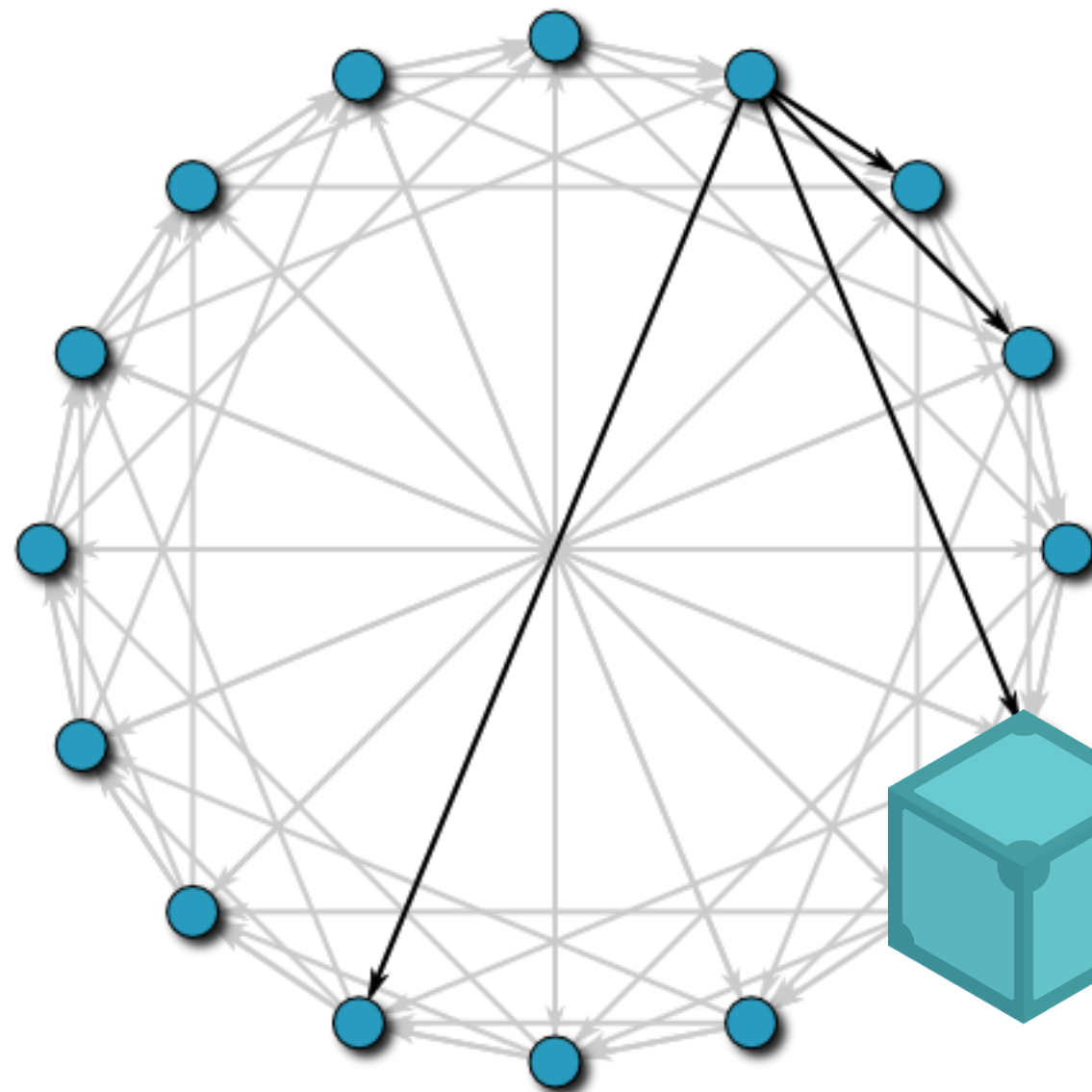
Pod B

<L><M><N>

Notification

Notification

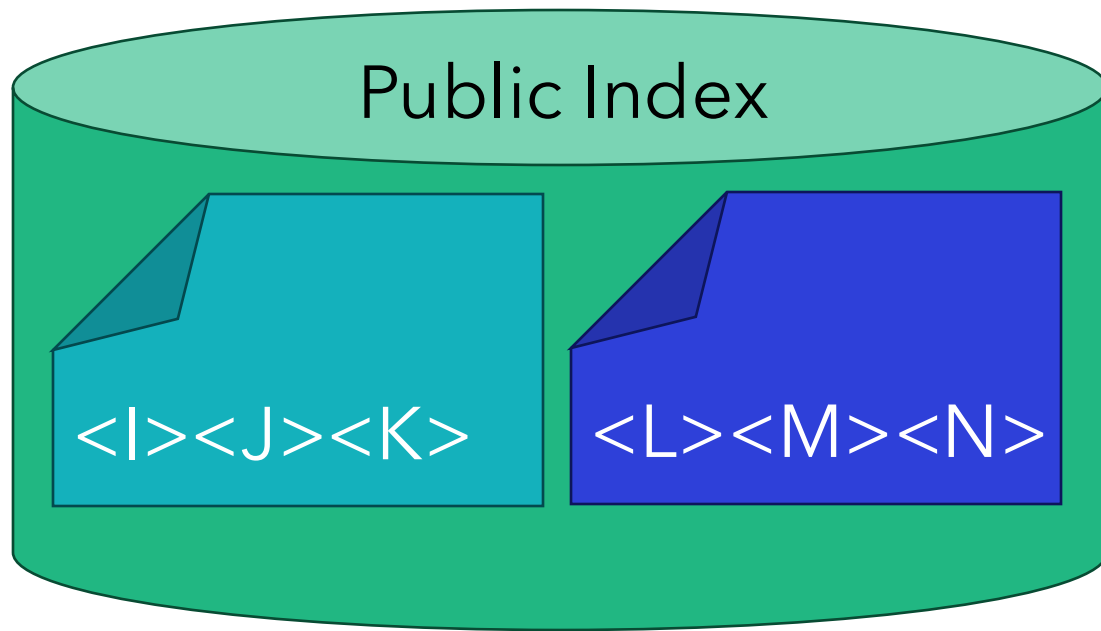
PUBLIC
INDEX



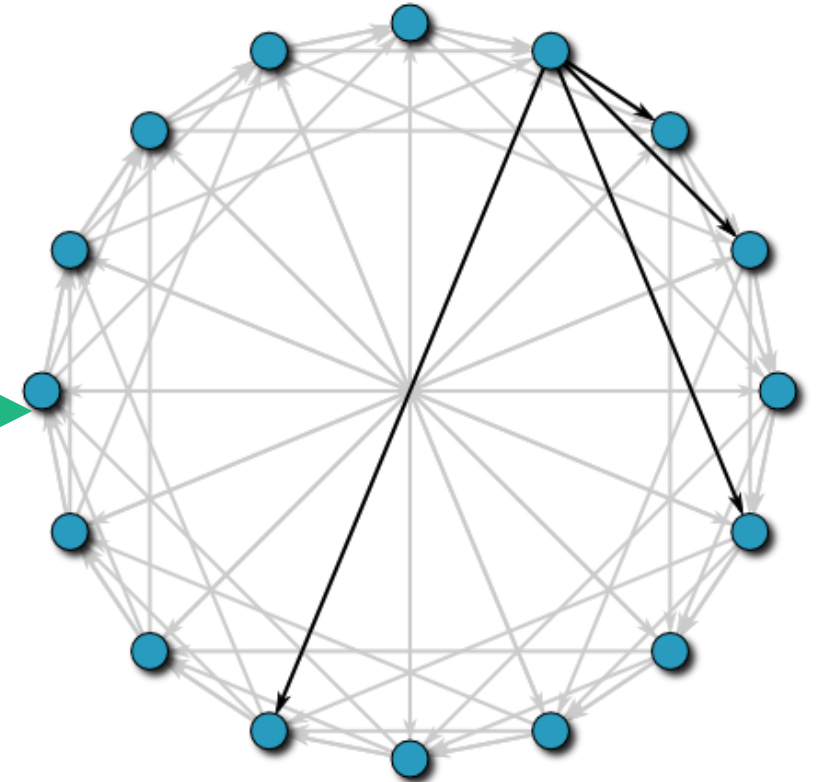
IPFS

Pub/Sub

PUBLIC
INDEX



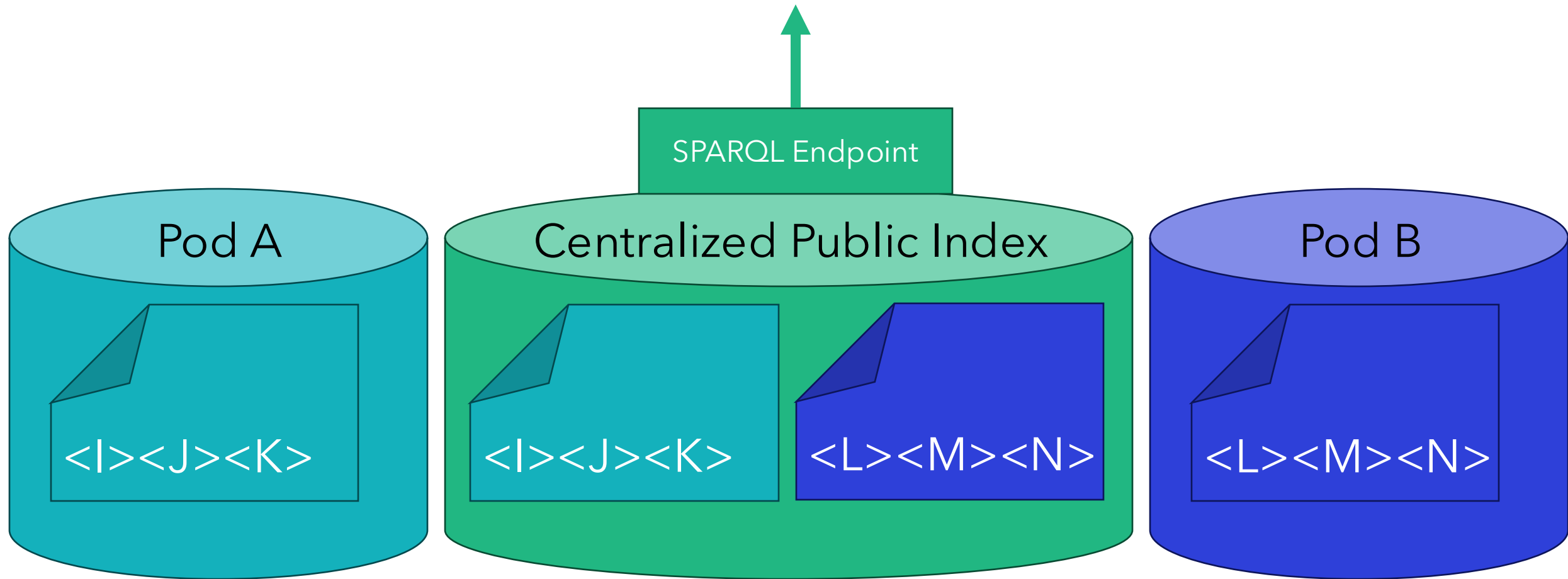
Centralized
(Private or Government Owned)



Collectively Owned

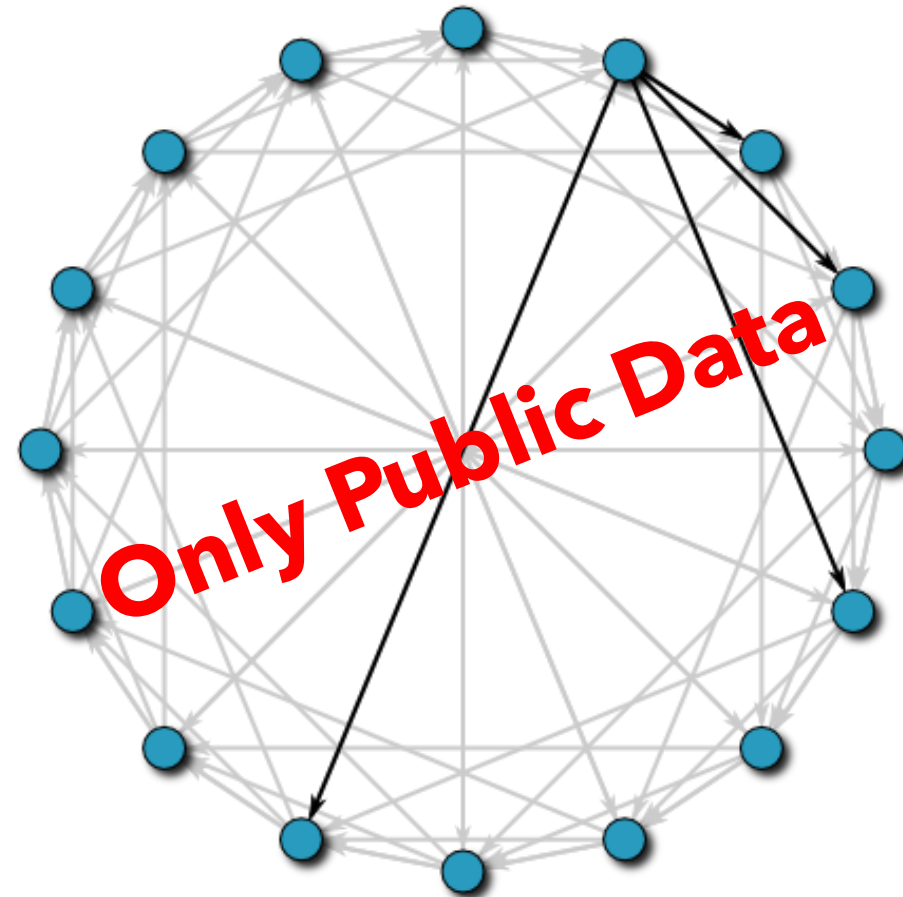
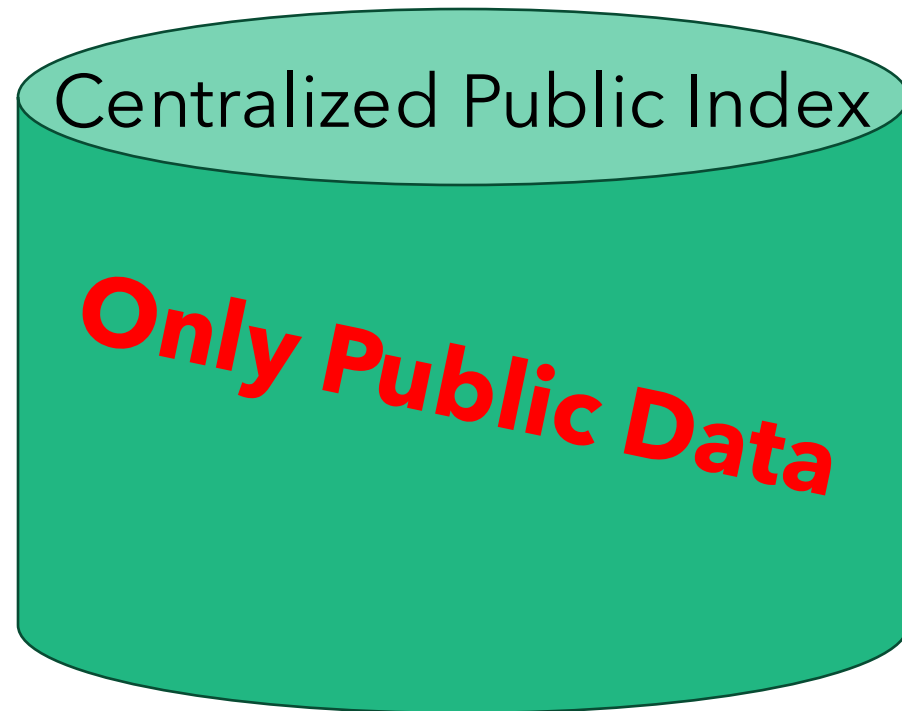
PUBLIC
INDEX

ENABLE LARGE-SCALE DATA SEARCH
ACROSS SOLID PODS



PUBLIC INDEX

RESPECTING INDIVIDUALS' DATA
SOVEREIGNTY, CONSIDERING INDIVIDUALS'
DIFFERENT ACCESS RIGHTS AND CACHING
NEEDS



PUBLIC
INDEX

KEEP THE AVERAGE QUERY AS FAST AS
POSSIBLE (UNDER 5000
MILLISECONDS)

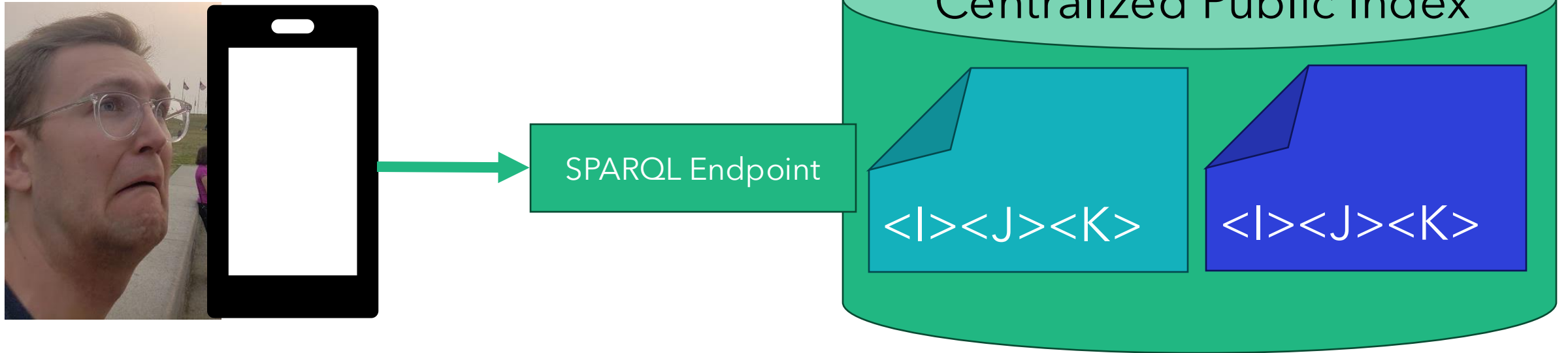
Centralized Public Index



Google
BigTable

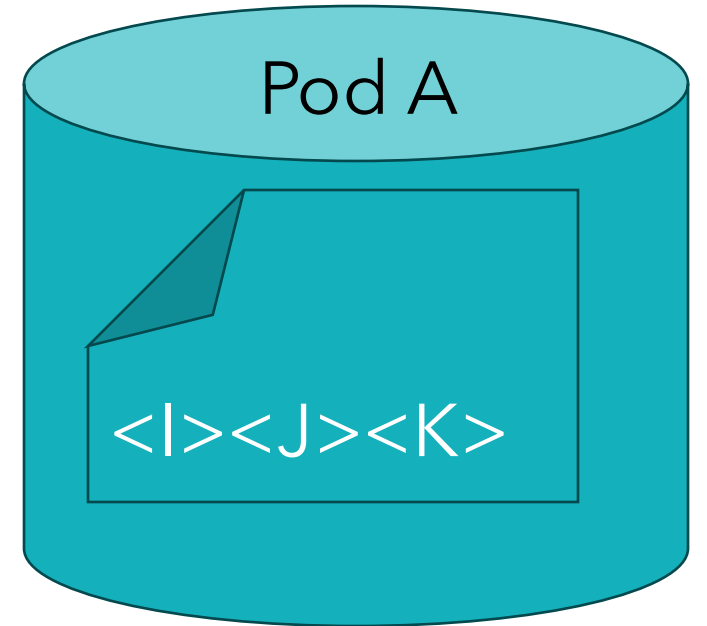
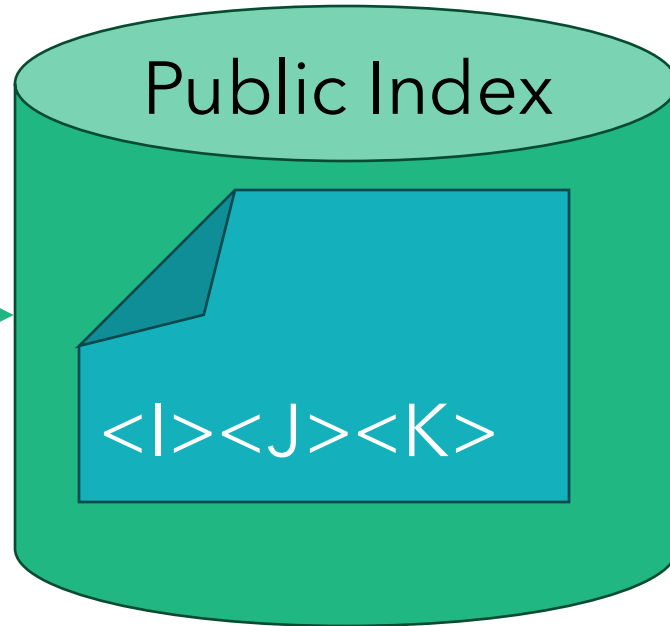
PUBLIC INDEX

REQUEST COUNT AND DURATION
REMAINS CONSTANT AS POD
QUANTITY INCREASES



PUBLIC INDEX

OFFLOAD SEARCH COMPUTE FROM THE
DATA OWNER

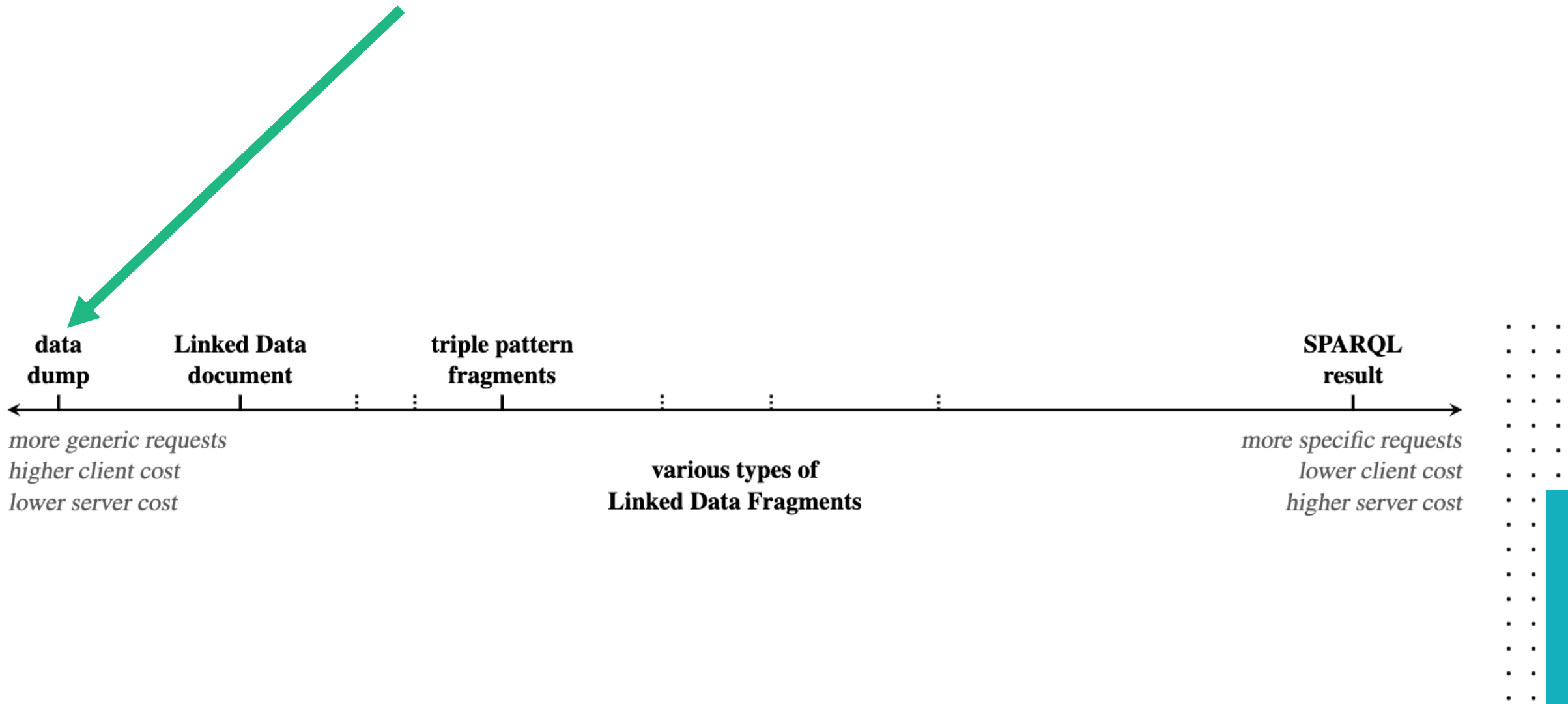



```
graph TD; CLIENT[CLIENT] --> PRIVATE_INDEX[PRIVATE INDEX]; CLIENT --> PUBLIC_INDEX[PUBLIC INDEX];
```

CLIENT

PRIVATE INDEX

PUBLIC INDEX





LOAD THE INDEX...



DURING SEARCH



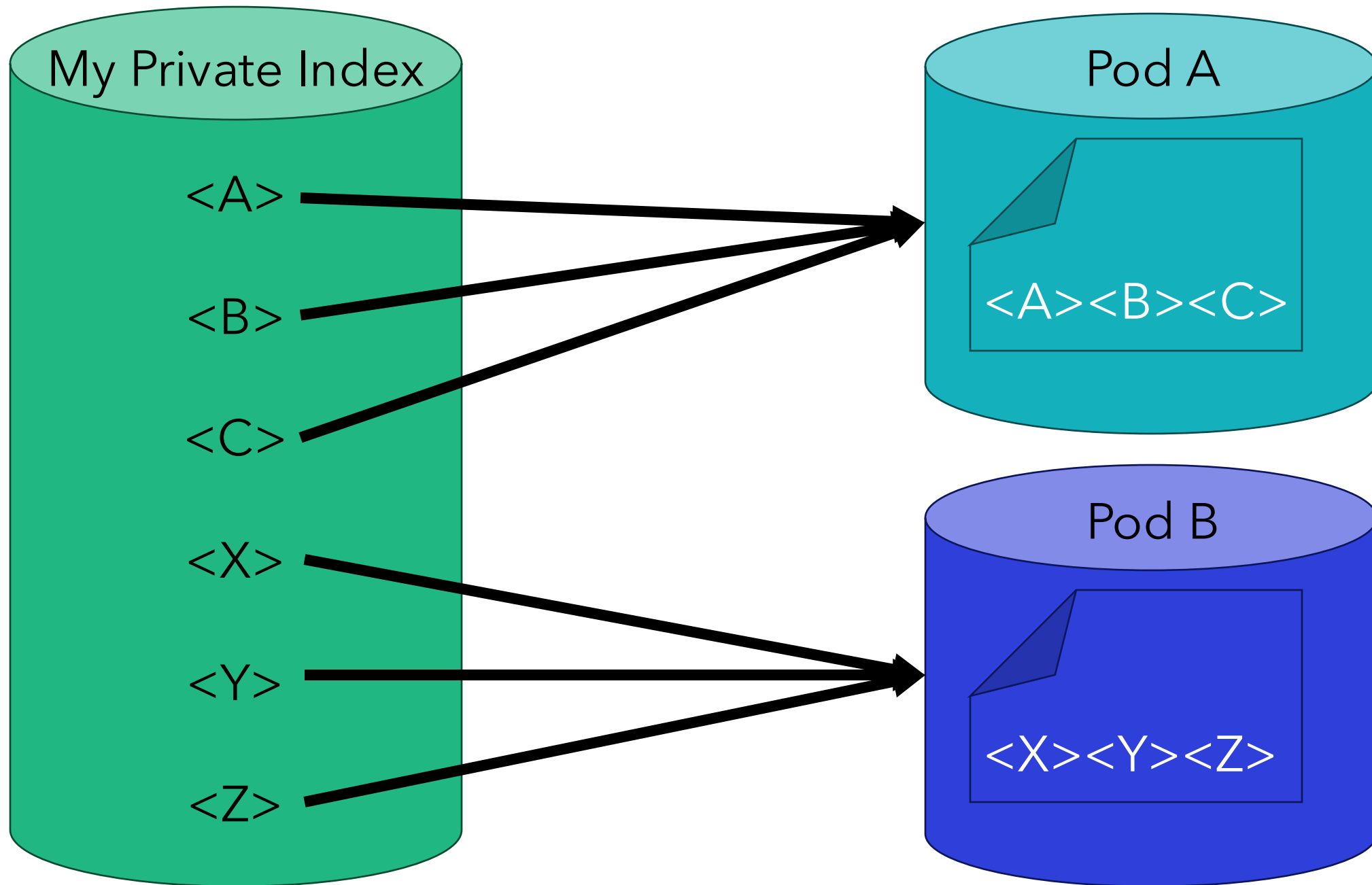
WHEN DATA IS UPDATED



DRAWBACKS

THAT'S A LOT OF DUPLICATION





THE SEARCH INDEX MAY NOT WORK
FOR REAL-TIME DATA

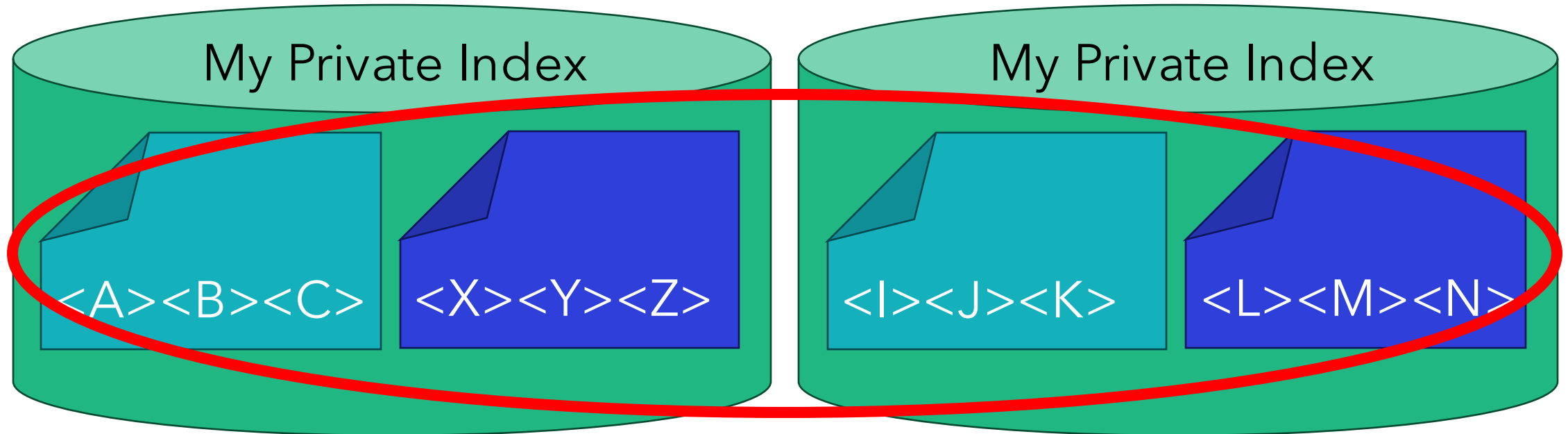


AN INDEX COULD GET OVERLOADED
WITH UPDATES/SPAM

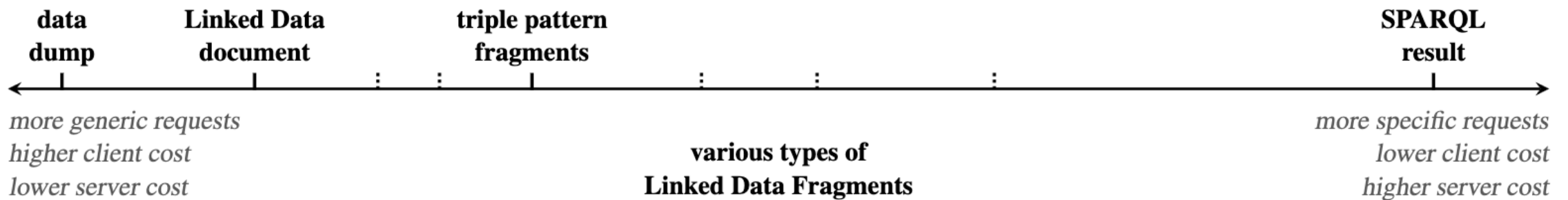



DOESN'T RESPECT CACHING PREFERENCES

Cached Data



DOESN'T RESPECT CACHING PREFERENCES





SEARCHER CENTRIC
SEARCH ISN'T THE ONLY
SOLUTION, BUT IT
SHOULD BE THE PRIMARY
SOLUTION

THERE'S NO WAY FOR YOU TO
CONTACT ME

jackson@o.team

