



Ground to Cloud: Your Migration Success Checklist

Matt Gordon

Hampton Roads SQL Server User Group – September 20, 2023

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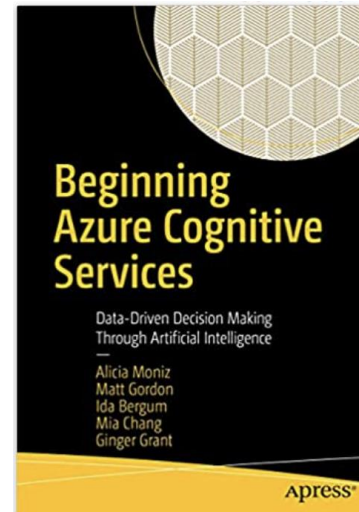
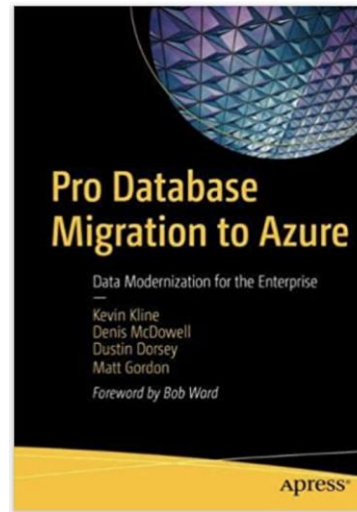
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Matt Gordon
Senior Architect
matt@sqlatspeed.com

 : @sqlatspeed

www.sqlatspeed.com



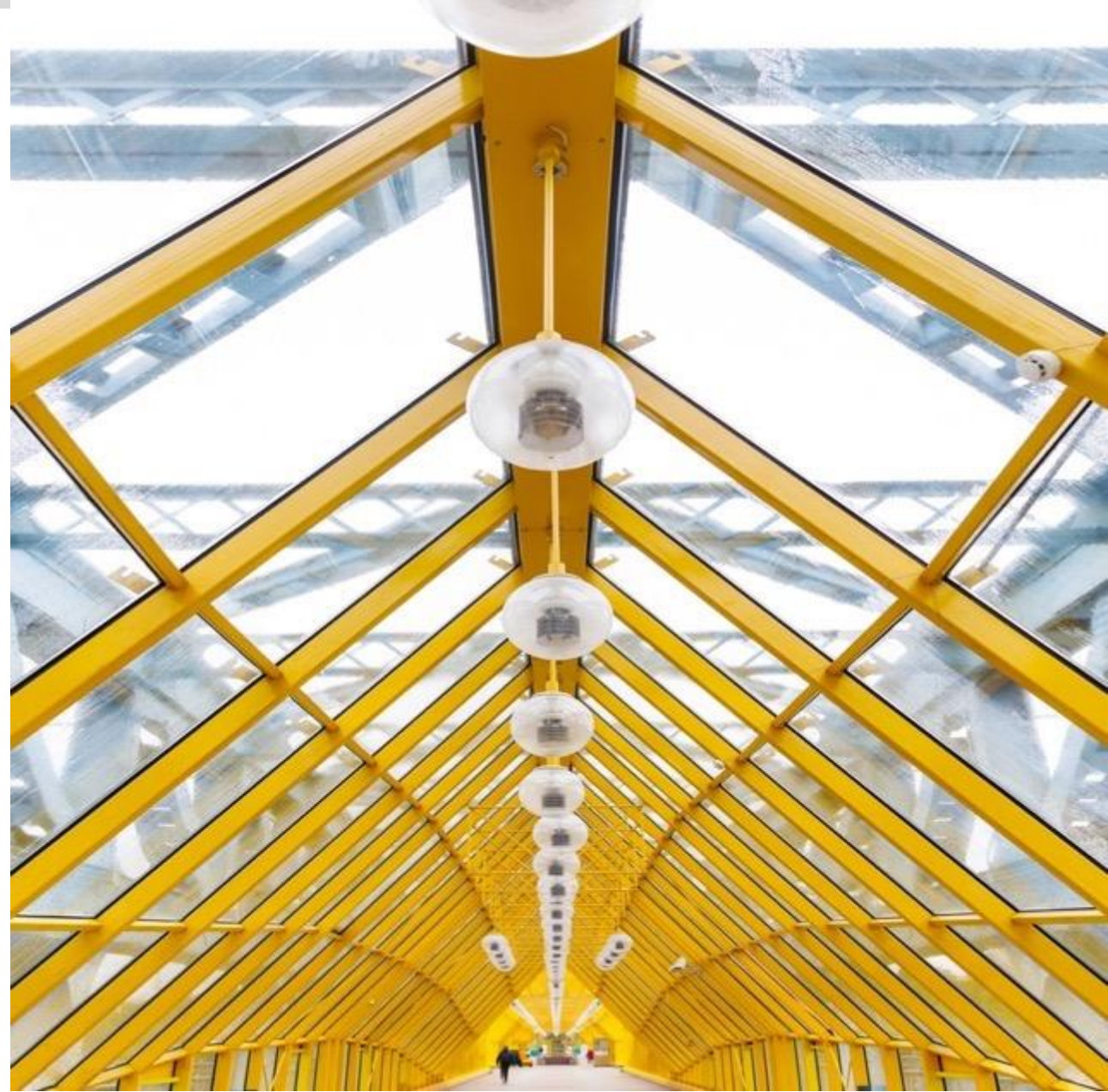
About Me

- 20+ years of SQL Server experience
- Microsoft Data Platform MVP
- Redgate Ambassador
- Managed 24x7 datacenters, DBA teams, and cloud teams
- Led cloud migrations large and small
- Leader of Lexington, KY Data Technology Group



What Are We Migrating?

- Data (what kind of data?)
- Apps
- Servers
- Direct network connections
- Other oddball entities



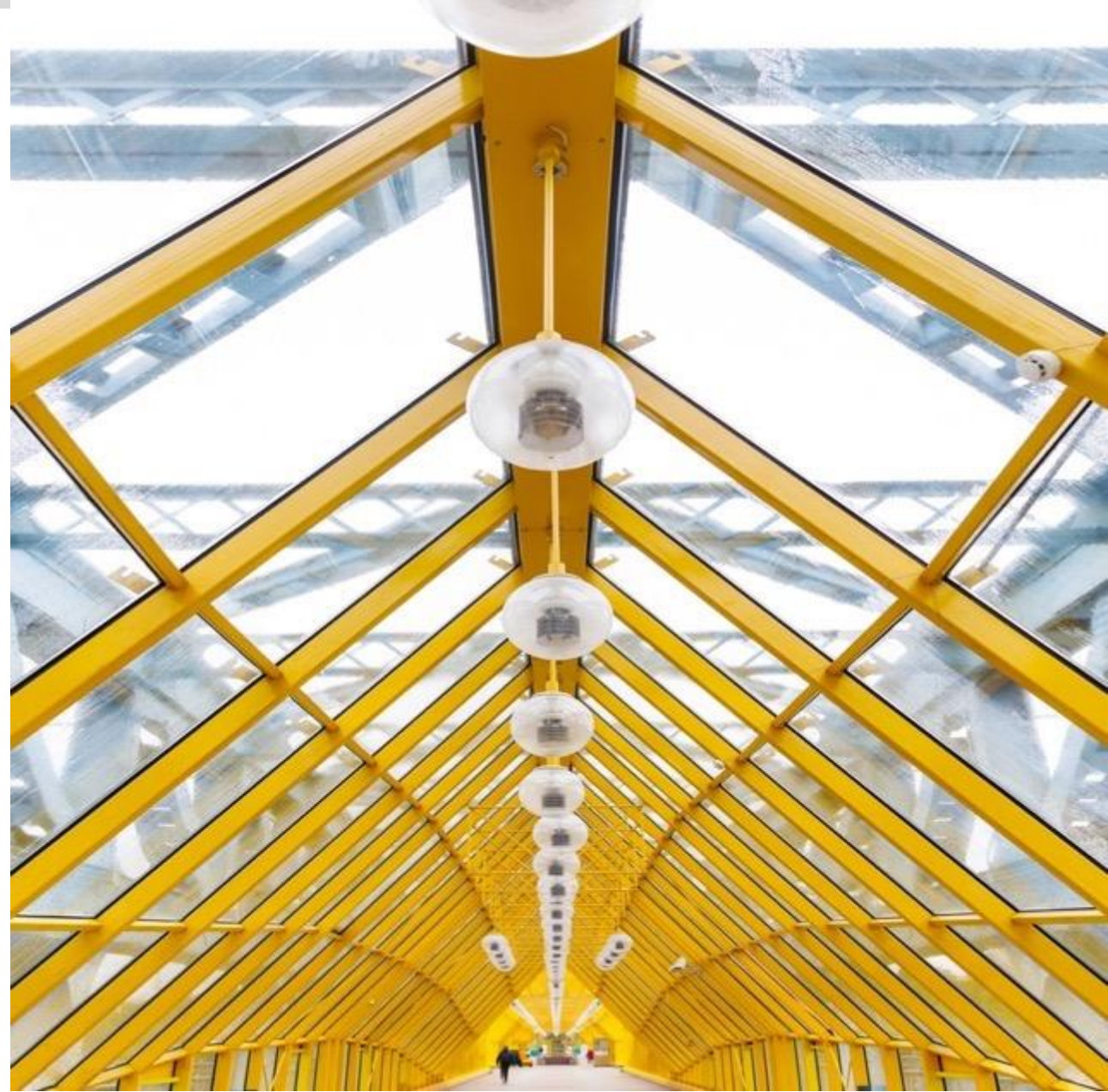


Why Are We Migrating Things?

- Trying to save money?
- Closing/consolidating datacenters?
- Boss person/people are making us
- Extending support for legacy environments (Azure only)?

Who Do We Need To Do The Work?

- Networking knowledge critical
- Operations people
- Security people
- Application developers/directors
- Data people
- Consultants/partners?



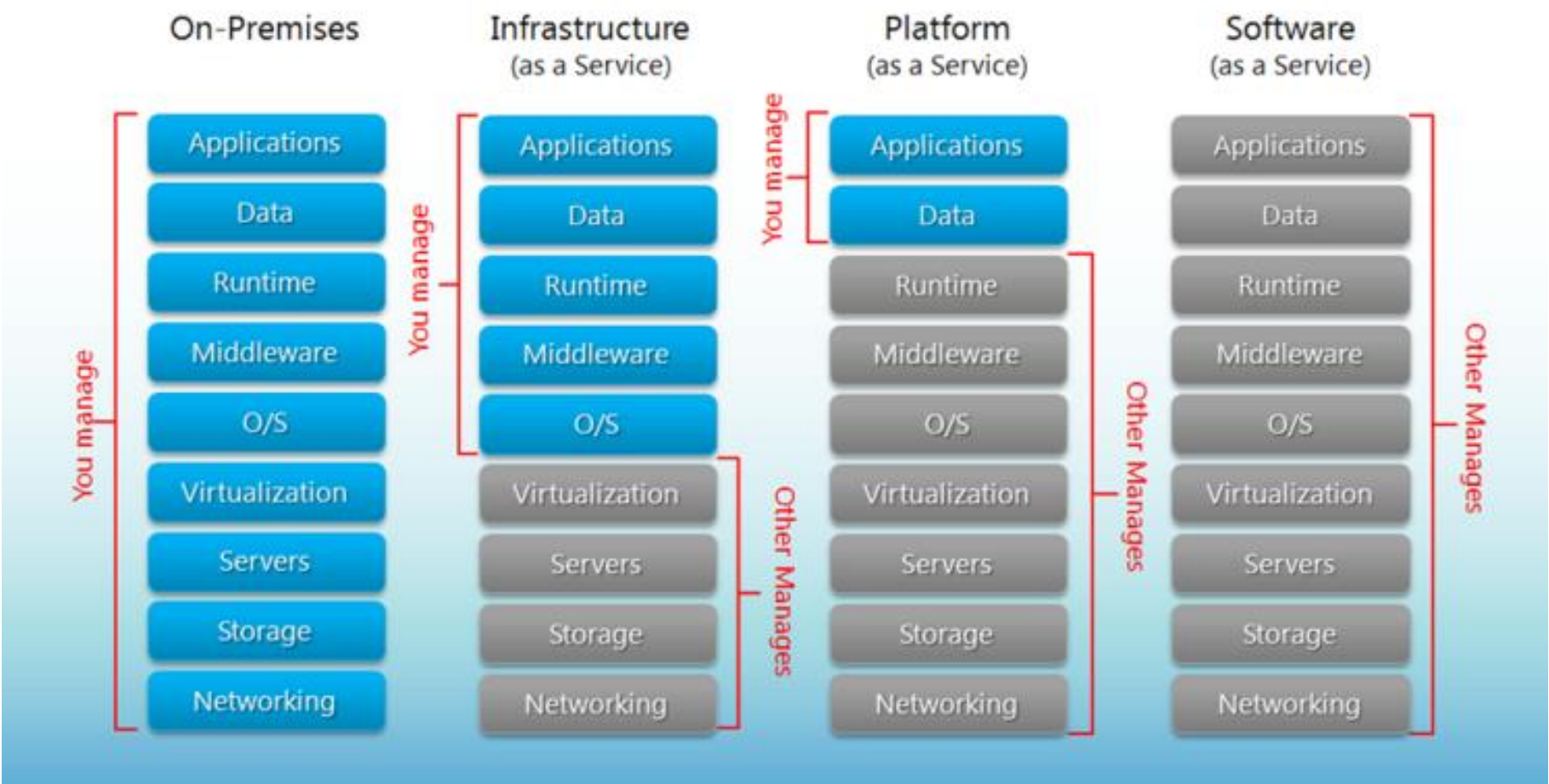


Where Is Our Stuff Going?

- Which cloud?
- IaaS? PaaS? A blend of the two?
- Not sure what I mean?

Breaking Down The Cloud's Alphabet Soup

Separation of Responsibilities



We Chose a Cloud...Now What?



Azure VM	Amazon EC2	Google Compute Engine
Azure SQL Database	Amazon RDS	Cloud SQL
Azure migration tooling 👍	AWS migration tooling 😞	GCP migration tooling 😞

- Remember skills/experience of the teams involved matter here

If We Chose Azure...What Are Our Choices?

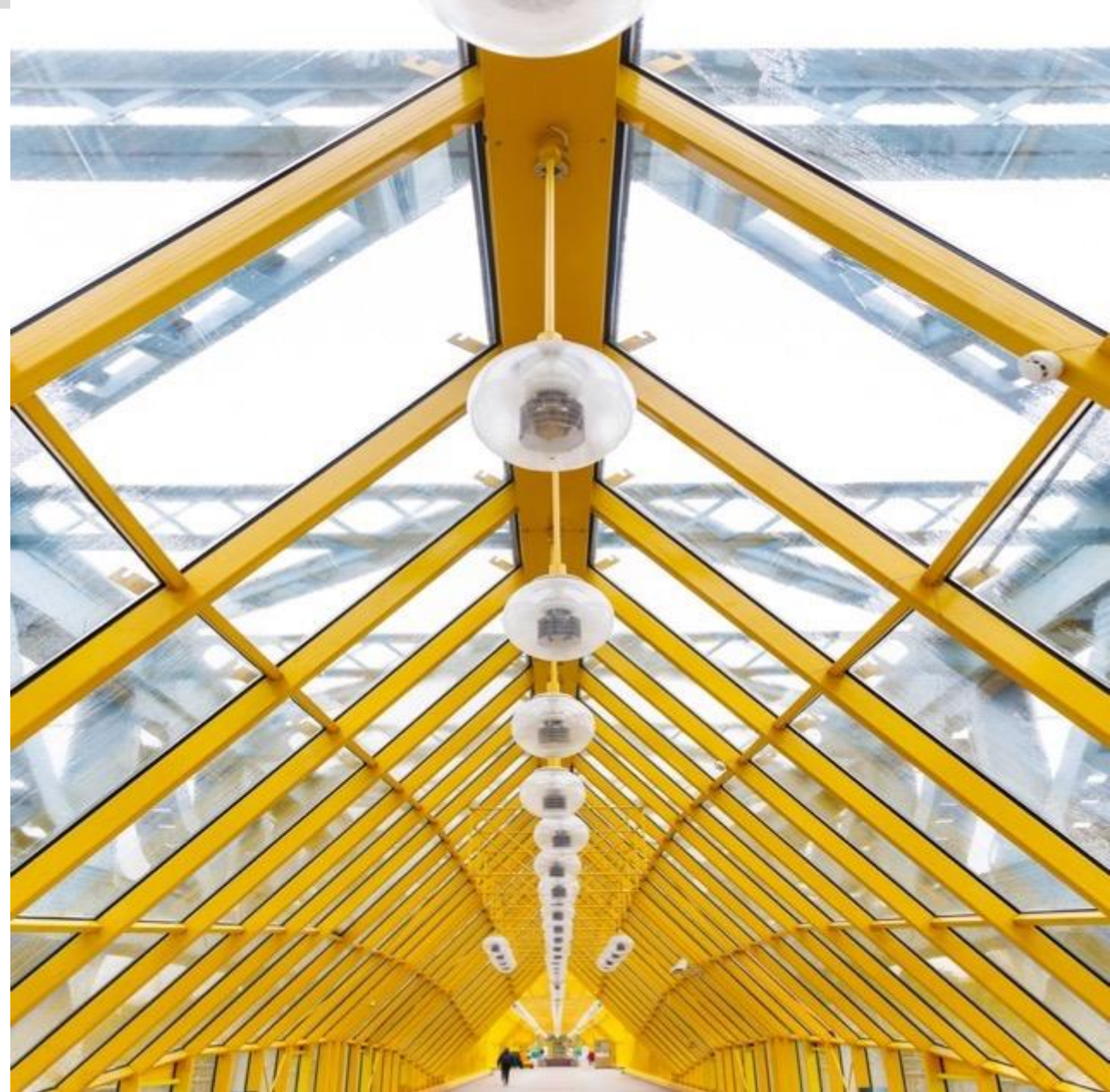
- Azure SQL
- Azure SQL Managed Instance
- General Purpose vs Business Critical service tiers
- Hyperscale?
- Serverless?

So Many Choices...How Do I Pick?

- RTO/RPO?
- What are our SLAs?
- What is our budget?
- Database Migration Assistant (DMA)
- Azure SQL SKU recommendation within DMA

Have We Tested It?

- Don't just assume it will work
- Can fix anything in the cloud with \$\$\$ (almost)
- Do we have any baseline information about performance?
- Do we know how we're going to evaluate performance and monitor it?
- DMA SKU recommendations can help here
- WorkloadTools (Gianluca Sartori, @spaghettidba) can be a great community resource



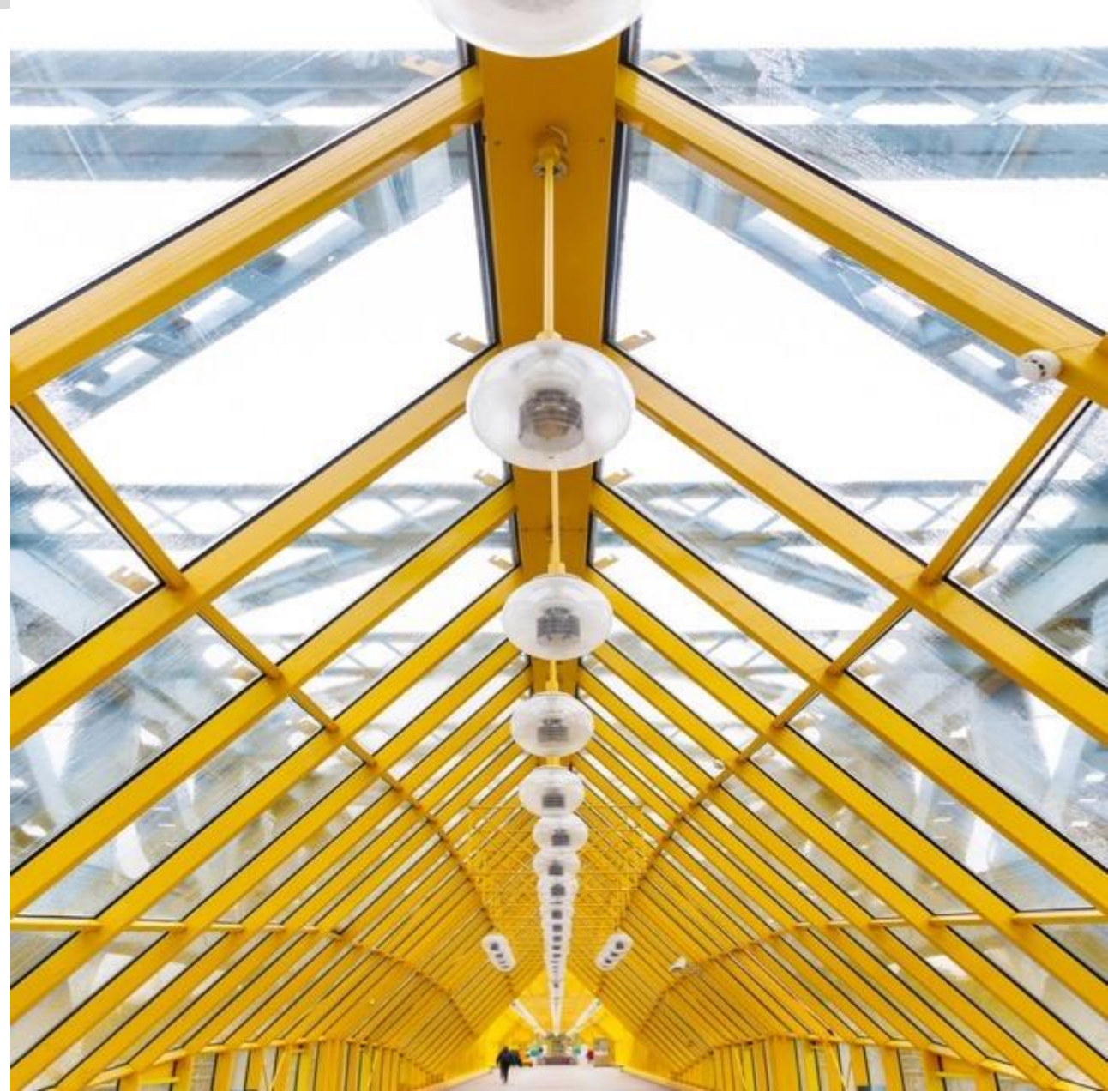


How Are We Migrating?

- Azure Migrate
- Amazon DMS
- GCP “tooling”

How Are We Migrating It (details...)?

- Replication to Azure SQL
- Replication to SQL Server on Azure VM
- Log shipping to SQL Server on Azure VM
- Export data-tier application in SSMS and save to Azure
- Smart Bulk Copy tool
- Azure Data Studio migration extension



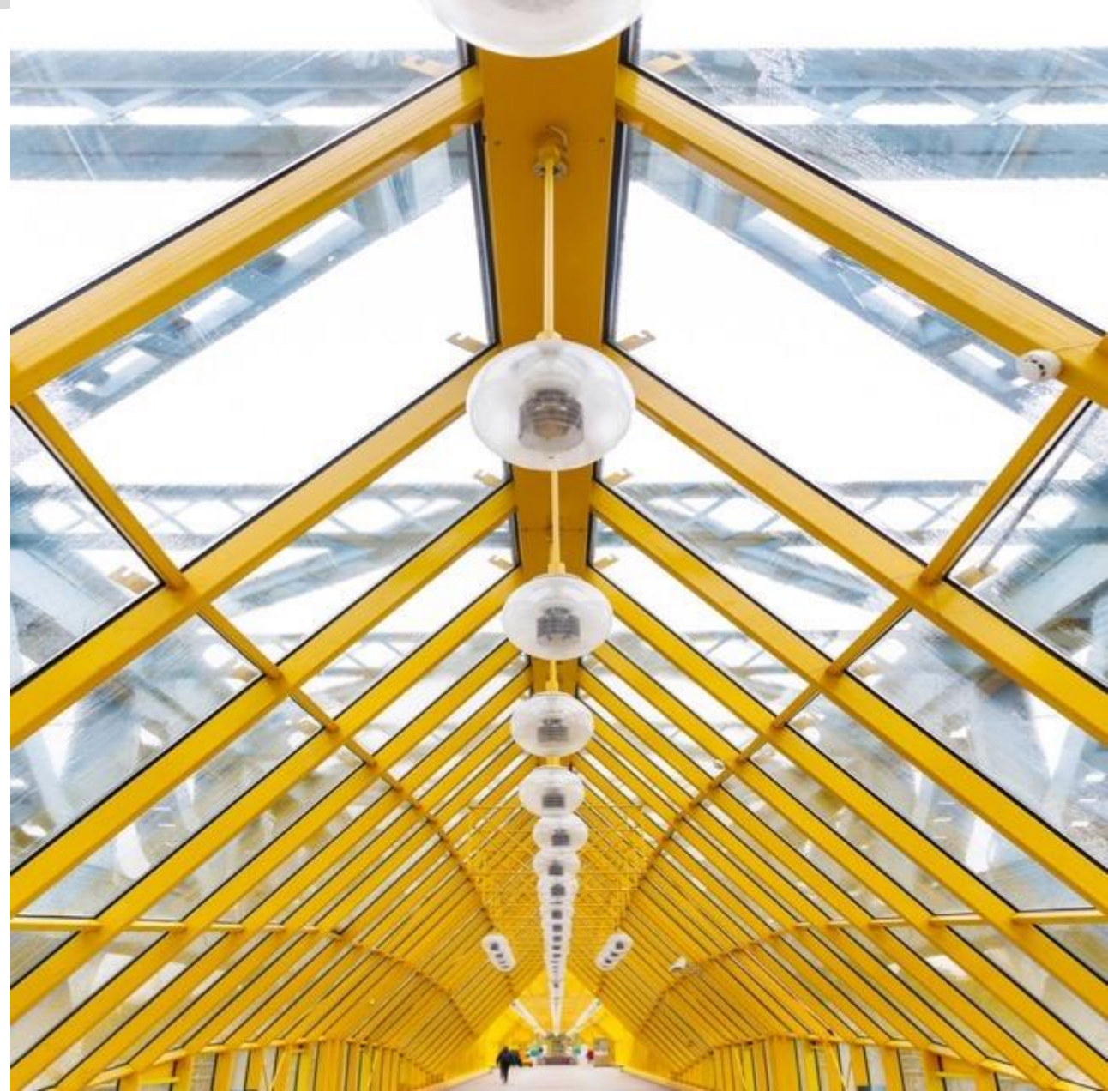


How Are We Migrating (MI-specific?)

- Log Replay Service
- Managed Instance Link
- Backup and restore
- Azure Data Studio migration extension

When Are We Migrating?

- Set firm dates
- Overcommunicate (especially externally)
- Remember internal processes (end of month, end of quarter, etc.)
- Take note of client/external processes
- Adjust for people's personal schedules and recovery time



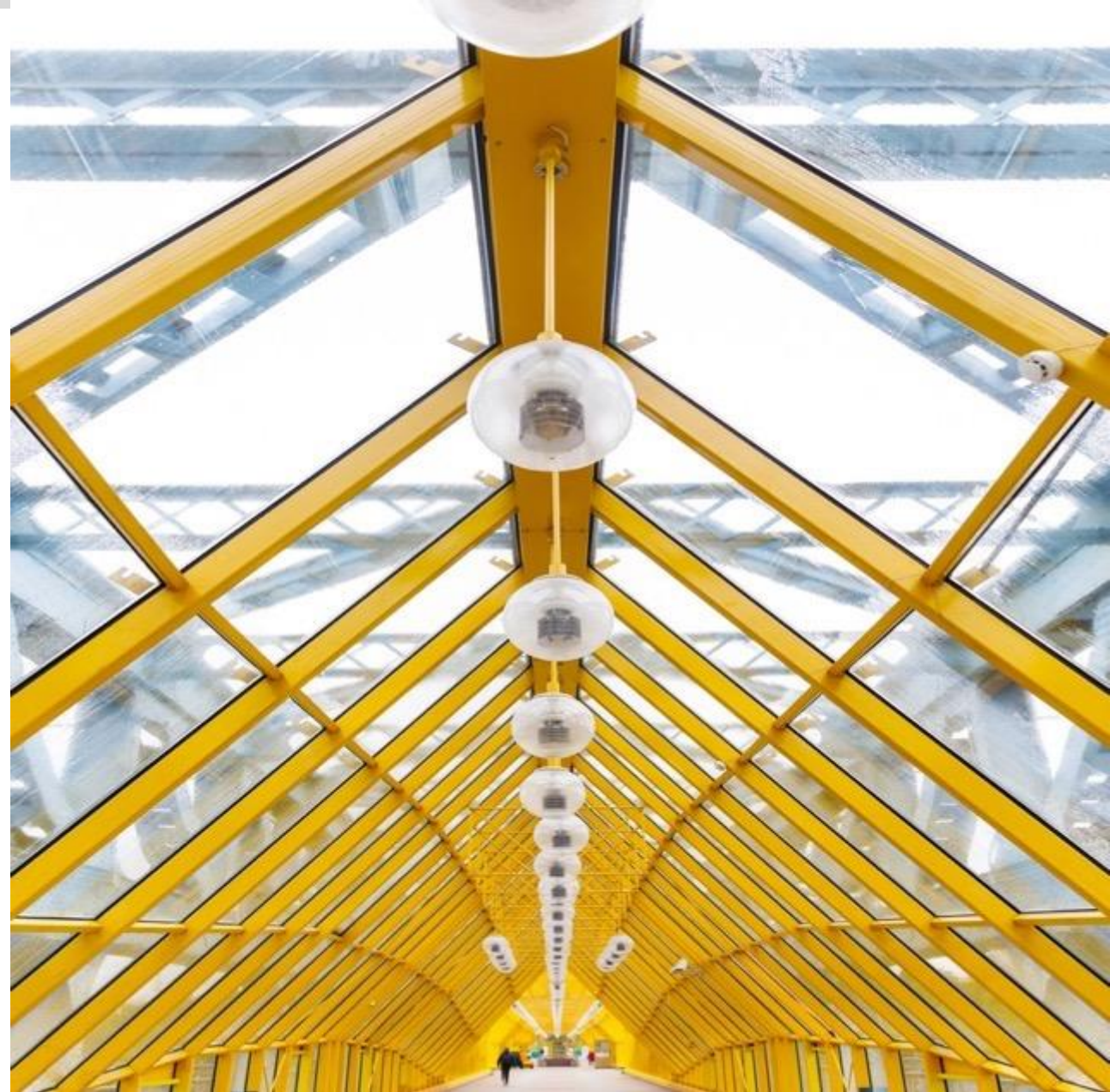


Who Is Doing The Migrating?

- Practice makes perfect
- Put a migration team together
- Plan for problems
- Plan the problem response and practice it
- Prepare for rollback(s)

Politics and Protection

- Cloud spend will often be pinned on data/infra teams
- Set expectations clearly throughout the project
- Understand that “we’ll fix our code when we’re in the cloud” pretty much never happens
- Communicate development delays/obstacles throughout



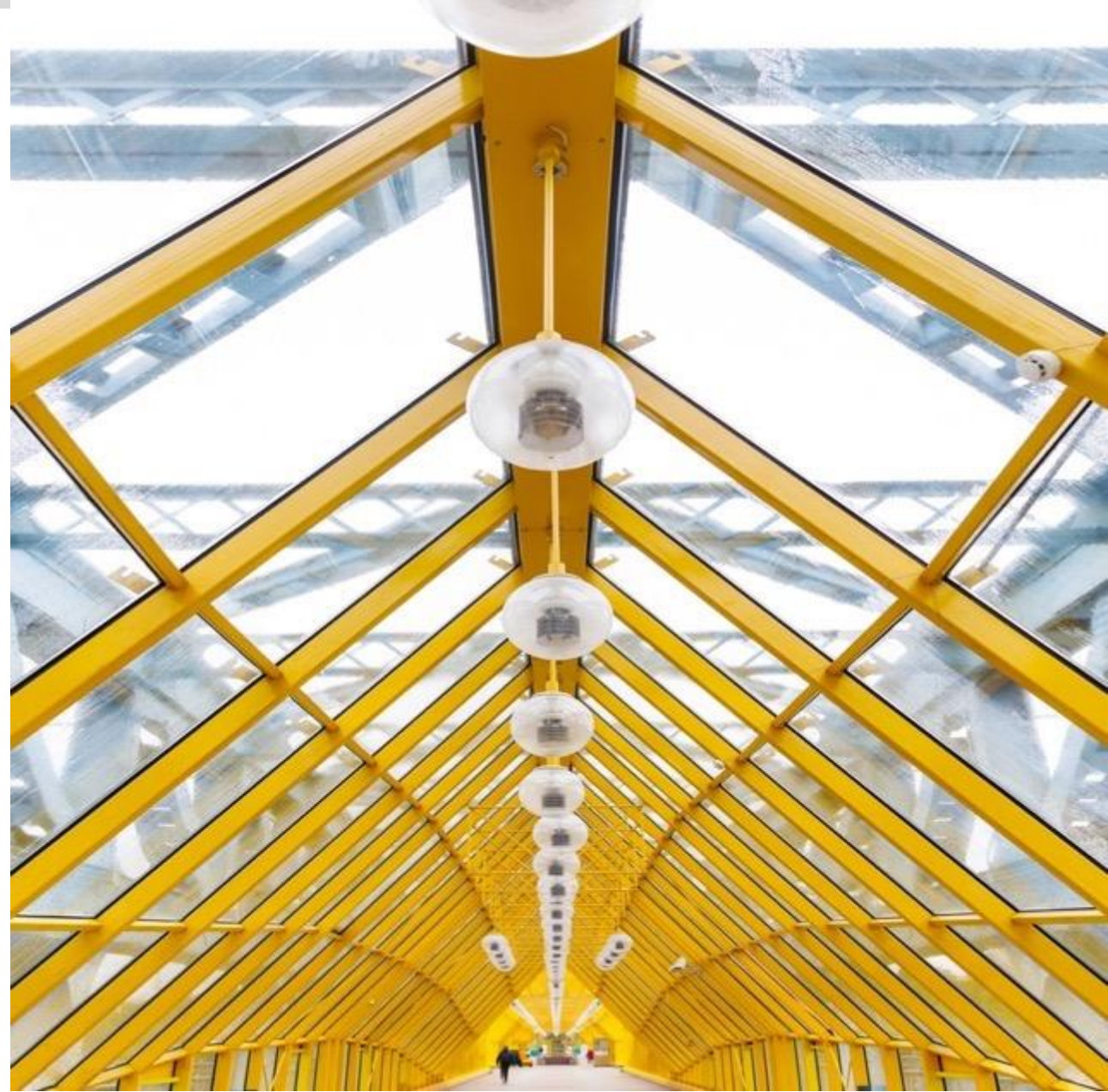


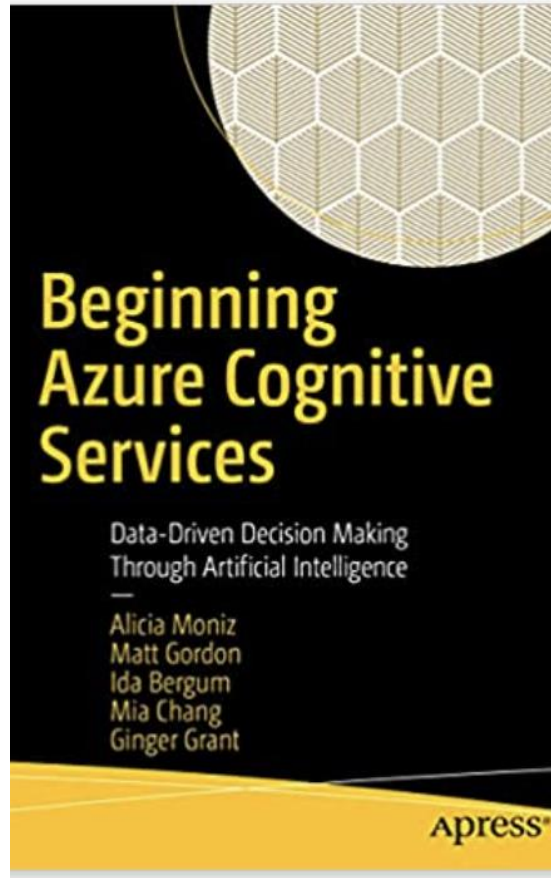
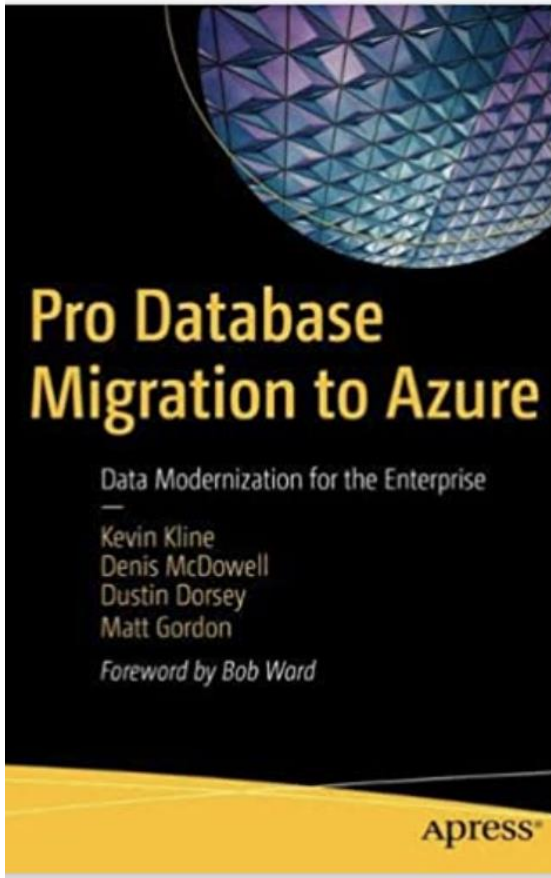
Our Checklist

- What Is Moving?
- Why?
- Who Do We Need?
- Where Is It Going?
- Has It Been Tested?

Our Checklist

- How Are We Moving It?
- When Are We Moving It?
- Who Is Moving It?
- Is The Team Protected?





The Slide Where I Sell My Books

- [Cognitive Services book](#)
- [Database Cloud Migration book](#)

Thanks For Attending!

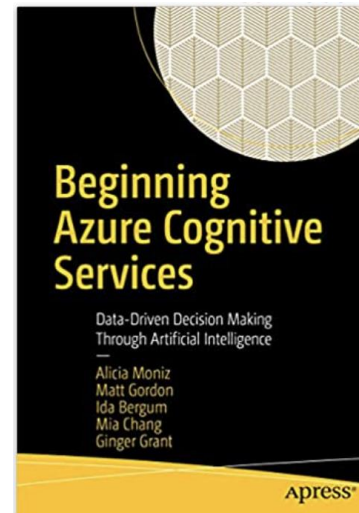
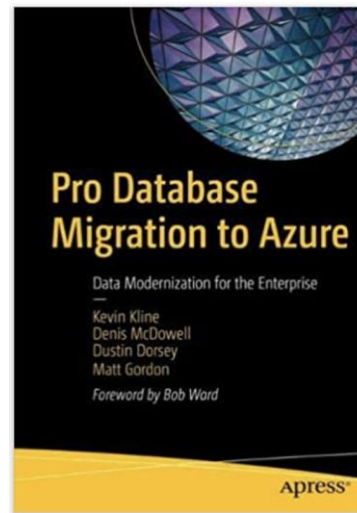


Matt Gordon
Senior Azure Architect
matt@sqlatspeed.com

 : @sqlatspeed

www.sqlatspeed.com

https://github.com/sqlatspeed/2023_presentations



Resources

- [Microsoft Ground to Cloud Workshop](#)
- [Creating Your First Azure SQL Database](#)
- [SQL Server 2008 Extended Support](#)
- [Running Data Migration Assistant Enterprise-Wide](#)
- [Smart Bulk Copy](#)
- [Azure Data Studio Migration Extension](#)
- [Azure SQL SKU recommendations](#)
- [WorkloadTools GitHub repo](#)