SKYTEK

AZURE EXPERT MSP | SOC 2 TYPE II | ISO 27001

CASE STUDY · CLOUD MIGRATION

From data center to Azure without the downtime.

How SKYTEK migrated 500+ production workloads to Microsoft Azure for a multi-division manufacturer — with zero disruption to end users and zero unplanned outage windows.

500+	0	99.9%	16 wks
WORKLOADS MIGRATED	HOURS UNPLANNED DOWNTIME	CUTOVER SUCCESS RATE	END-TO-END TIMELINE

ENGAGEMENT OVERVIEW

A datacenter exit on a production deadline.

SECTOR	FOOTPRINT	TARGET PLATFORM	DURATION
Manufacturing	500+ workloads	Microsoft Azure	16 weeks

The client operated two aging on-premises data centers supporting 24/7 production lines across multiple divisions. An expiring colocation lease and end-of-life hardware forced a hard deadline: every workload had to be off the floor within one fiscal quarter — without a single minute of downtime that production could feel.

THE CHALLENGE

Why "lift and pray" was never an option.

Manufacturing environments don't tolerate maintenance windows the way office IT does. Lines run continuously, MES and SCADA systems expect sub-second latency to controllers, and a stalled batch can cost more than the migration itself. SKYTEK inherited four constraints that had to hold simultaneously:

CONSTRAINT 01

Zero production impact

No cutover could interrupt line-of-business or shop-floor systems during operating hours — effectively a 24/7 freeze on user-visible downtime.

CONSTRAINT 02

Hard lease deadline

The colocation contract expired in 16 weeks with no extension. Slipping the date meant paying penalty holdover rates on both facilities.

CONSTRAINT 03

Tangled dependencies

Two decades of undocumented application sprawl, shared databases, and hard-coded IP dependencies across 500+ workloads.

CONSTRAINT 04

Identity consolidation

Two legacy Active Directory forests with overlapping SIDs had to be merged into one Entra-integrated identity plane.

WHY IT MATTERED

A failed cutover here doesn't generate a help-desk ticket — it stops a production line. Every architectural decision was made to keep rollback possible up to the final second.

THE SKYTEK APPROACH

Discovery first. Cutover last. Rollback always.

Rather than a single high-risk migration event, SKYTEK ran the program as five overlapping phases, each with its own validation gate. Nothing advanced until the prior gate passed.

1 Discovery & dependency mapping

WEEKS 1–3

Agentless scanning with Azure Migrate captured every server, service, and network flow. We built a dependency graph of all 500+ workloads, grouping them into 38 move-groups so interdependent systems would always migrate together.

2 Landing zone & network foundation

WEEKS 2–5

An Azure hub-and-spoke architecture was stood up using Virtual WAN, with ExpressRoute back to the colocation facilities for high-throughput replication. Spokes were segmented per division with Network Security Groups and Azure Firewall enforcing zero-trust east-west rules.

3 Identity consolidation (ADMT)

WEEKS 4–9

The two legacy forests were consolidated with the Active Directory Migration Tool, preserving full SID history so file permissions and application access carried over untouched. Entra ID Connect established hybrid identity ahead of any workload move.

4 Replication & staged cutover

WEEKS 5–14

Azure Site Recovery continuously replicated each move-group to Azure. Test failovers ran in an isolated network for every group — validating boot, application health, and latency — before any production cutover was scheduled.

5 Cutover, validation & optimization

WEEKS 10–16

Final cutovers were sequenced into low-activity windows per division, each with a tested 15-minute rollback path. Post-move, workloads were right-sized, reserved instances applied, and backup/DRaaS policies enforced.

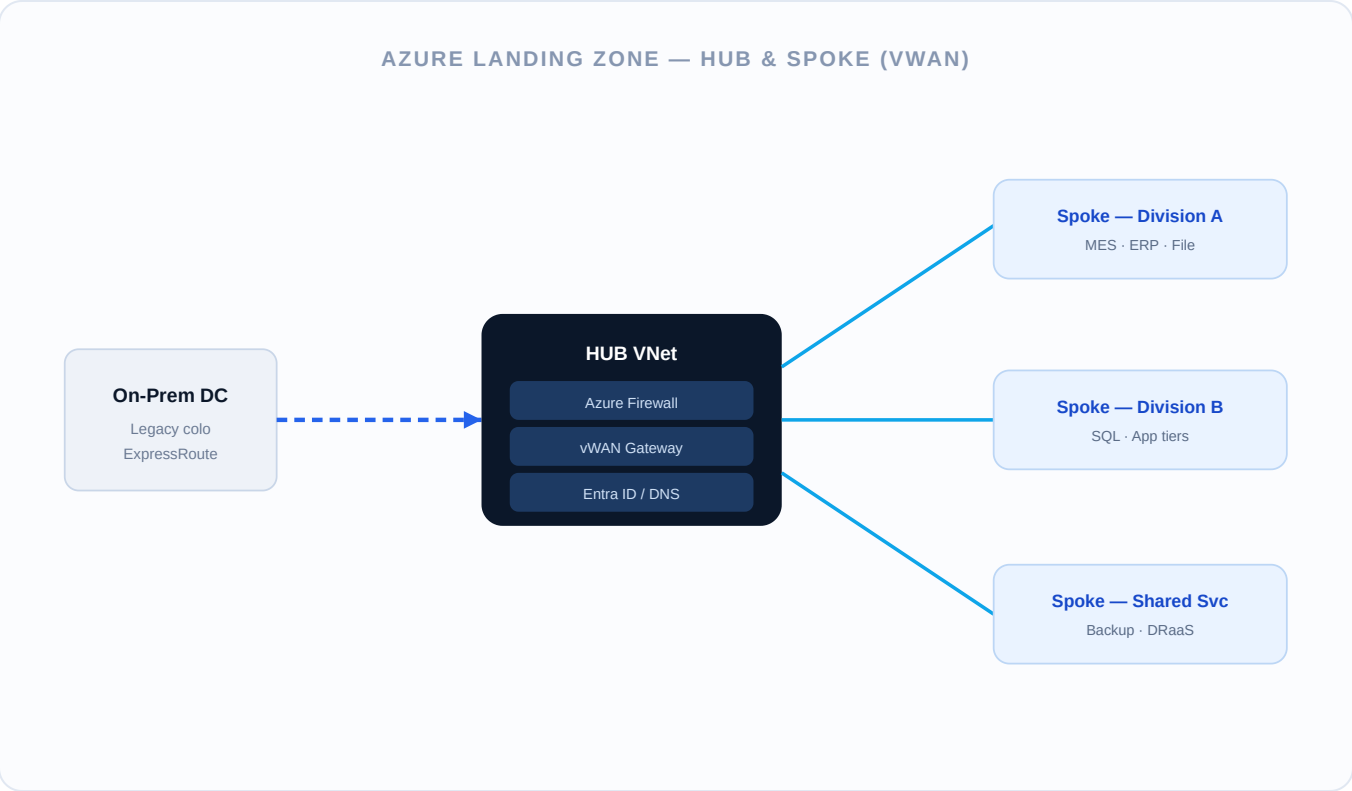
THE ZERO-DOWNTIME MECHANISM

Continuous replication plus tested failover meant production kept running on-premises right up to the cutover instant. The switch was a DNS and gateway change measured in seconds — not a rebuild.

TARGET ARCHITECTURE

Hub-and-spoke, built for isolation and scale.

The destination landing zone follows Microsoft's Cloud Adoption Framework. A central hub VNet carries shared services — firewall, gateways, identity — while each division lives in an isolated spoke, peered to the hub but not to each other.



Platform components

LAYER	SERVICE	PURPOSE
Connectivity	Azure ExpressRoute + vWAN	Private, high-throughput link for replication and steady-state traffic
Migration	Azure Migrate + Site Recovery	Agentless discovery and continuous replication with tested failover
Identity	ADMT + Entra ID Connect	Forest consolidation with SID-history preservation; hybrid identity
Security	Azure Firewall + NSGs	Zero-trust segmentation, east-west control per division spoke
Resilience	Azure Backup + DRaaS	Immutable backup and orchestrated recovery post-migration

OUTCOMES

The deadline held. The lines never stopped.

All 500+ workloads were live in Azure inside the 16-week window, ahead of the lease expiry. No production line registered user-visible downtime attributable to the migration.

500+	0	99.9%	~32%
Workloads in Azure	Hrs unplanned downtime	Cutover success rate	Run-rate reduction

Operational results

- Both colocation facilities fully decommissioned before lease expiry — no holdover penalties.
- Every cutover preserved a tested rollback path; none was triggered in production.
- Two AD forests consolidated to a single Entra-integrated identity plane with permissions intact.

Business results

- Roughly one-third lower infrastructure run-rate after right-sizing and reserved instances.
- Hardware refresh capital expense eliminated — shifted to predictable cloud operating cost.
- Immutable backup and DRaaS now meet the client's recovery-time objectives by policy.

> *We expected at least one bad weekend. We got none. The lines kept running and we found out workloads had moved only because the dashboards changed.*
>
> **VP of Operations** · Manufacturing client (multi-division)

What made it work

Zero downtime was not luck — it was the byproduct of disciplined sequencing: exhaustive dependency mapping, move-groups that kept coupled systems together, continuous replication so production never paused, and a rollback path validated before every single cutover.

PLAN YOUR MIGRATION

Move to the cloud without moving your business backwards.

If a datacenter exit, Azure migration, or identity consolidation is on your roadmap, SKYTEK can scope it with the same zero-downtime discipline — starting with a no-obligation architecture review.

- Microsoft Azure Expert MSP — among the most experienced Azure partners worldwide
- Dependency-mapped, move-group sequencing for zero-downtime cutovers
- SOC 2 Type II audited delivery · ISO 27001 aligned

TALK TO A CLOUD ARCHITECT

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