



Architect4Hire

DELIVERY & INVESTMENT PLAN

Membership Azure Function Landscape

Reliability Hardening & Architecture Baseline

Prepared for CONFIDENTIAL. · Robert Felkins



Workstreams

#	Workstream	Purpose	Complexity	Effort	Skill set
1	Message settlement standardization	Uniform complete-after-success across all 21 functions	High	2 d	Architect
2	CreateProfile at-least-once redesign	Stop the early-complete that can silently drop registrations	High	1 d	Architect + C# dev
3	CQRS projection consistency	Observability + repair across the 5 read-model projections	Medium	1 d	C# dev + Cosmos
4	Poison-message dead-lettering	Standard DLQ + retry / backoff policy for every trigger	Medium	1 d	C# dev
5	Notification chain hardening	Reliability across InstantNotification -> canned email/SMS	Medium	2 d	C# dev
6	Architecture baseline & diagrams	Durable C4 + ER + sequence documentation (this artifact)	Low	2 d	Architect

Effort is first-pass; sequencing and estimates firm up in Vision. Complexity drives the architect/squad mix.

Current-state findings



Inconsistent message settlement

CRITICAL

Three different completion strategies across 21 functions — delivery guarantees vary function to function.



Registration-loss risk

CRITICAL

CreateProfile completes the message before calling the Profile API; a failure after that silently drops a signup.



Read-model divergence

IMPORTANT

The 5 CQRS projections run independently; partial failure leaves search and member lists temporarily inconsistent.



No standard poison handling

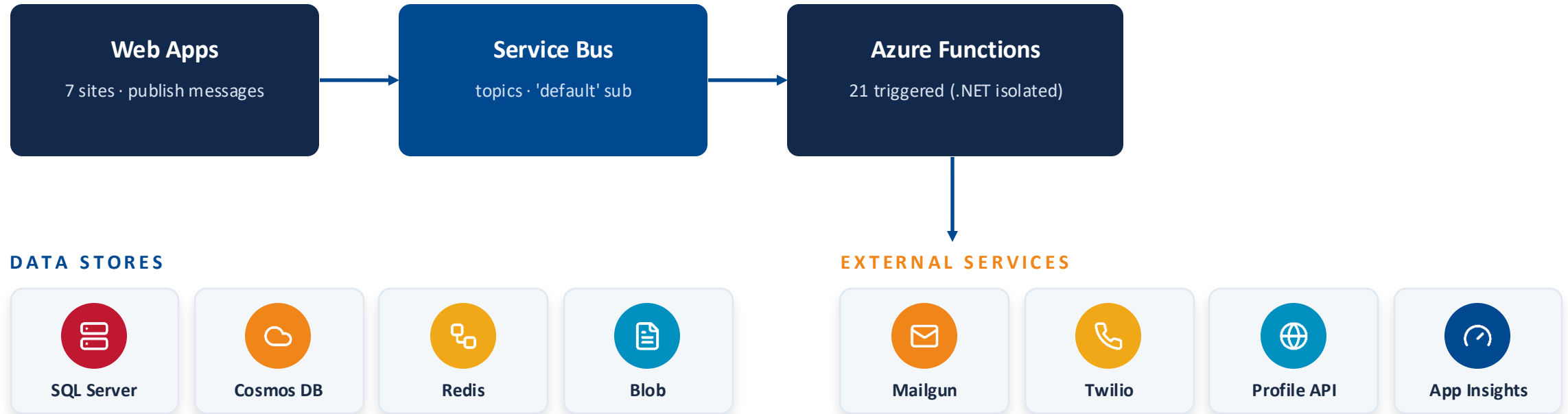
IMPORTANT

Only LastActivity dead-letters correctly; others abandon-loop or drop, with no uniform retry policy.

Benefits & measures

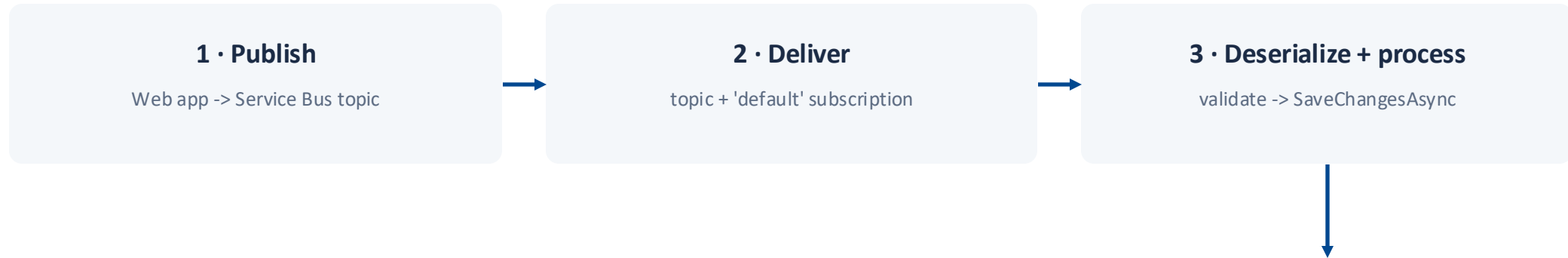
Benefit	Level	Description	Measure
Revenue protection	High	Eliminate silently-dropped registrations from the CreateProfile early-complete	Dropped-registration incidents -> 0
Reliability	High	Uniform at-least-once settlement with dead-lettering across every function	Lost-message incidents down; poison isolated, not looping
Data consistency	Medium	Faster convergence and visibility across the 5 read models	Divergence window down (target < 1 min)
Operability	Medium	Architecture baseline + diagrams as a durable source of truth	Triage & onboarding time down

The event-driven landscape

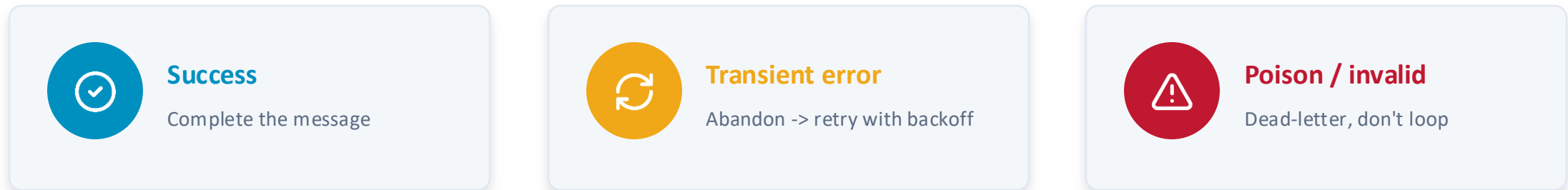


Choreographed & event-driven: web apps publish to Service Bus topics; independently-deployable Function Apps react — SQL for audit/config, Cosmos for profiles + CQRS read models, Redis cache, Blob templates.

Target message lifecycle



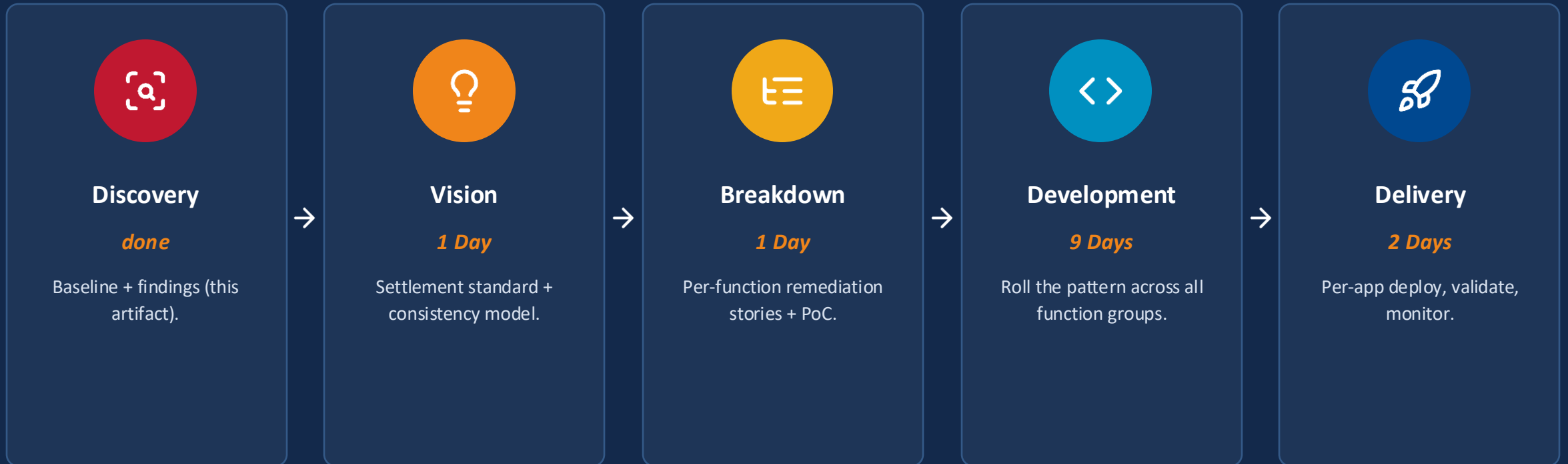
MESSAGE SETTLEMENT — STANDARDIZED



The LastActivity function already follows this pattern — the engagement rolls it across all 21 functions, closing the registration-loss gap.



Delivery roadmap



~7 weeks end to end · Discovery already complete

Labor estimates

Phase	Sprint allocation (rate)	Notes
Vision	Architect: 8h @ \$75/h	Define settlement standard + consistency model
Breakdown	Architect: 8h @ \$75/h	Remediation stories + PoC on CreateProfile
Development	Architect: 72h @ \$75/h	Roll pattern across all function groups
Delivery	Architect: 16h @ \$75/h	Per-app deploy, validate, monitor
Total	Architect: 104 hours / \$ 7,800	~\$7,800

Investment expectations

Category	Initial investment	Ongoing investment
Software	No additional Azure spend	No additional Azure spend
Hardware	No additional Azure spend	No additional Azure spend
Services	No additional spend	No additional spend
Architect4Hire labor	~\$7,800 over 2 weeks	No additional spend
Client labor	~6h / week of an SME	~1h / week
Total	~\$7,800	Minimal



No new infrastructure — this hardens what already runs. The spend buys senior judgment across 21 functions, not new Azure resources.

Total cost of ownership

Horizon	Cost	Rationale
Initial investment	\$7,800	Hardening + architecture baseline
Year 1	\$0*	Runs on existing infra · *avoids dropped-signup revenue loss
Year 2	\$0	No new spend
Year 3	\$0	No new spend
Year 4	\$0	No new spend
Year 5	\$0	No new spend
5-year TCO	\$7,800	One-time fix to existing infrastructure



The investment is one-time; the reliability gain compounds. Every year avoids the revenue and support cost of dropped registrations and divergent read models.

Review, approval & document control

REVIEW & APPROVAL

Role	Name	Reviewed	Agreed
Client Sponsor	CONFIDENTIAL	[Y]	[Y]
Architect	Robert Felkins	Yes	Yes

DOCUMENT CONTROL

Rev	Author	Date	Description
1	Robert Felkins	2026-04-11	Initial draft — reverse-engineered baseline
[2]	[author]	[date]	[change]

This document is versioned and signed off before the build phases begin.



Architect4Hire

LET'S TALK

Questions?

Push on the findings, the sequence, the estimates — that's what this conversation is for.



robert@architect4hire.com



(312) 493-9696



architect4hire.com