

A VENDOR-NEUTRAL FRAMEWORK FOR INDIAN ENTERPRISES

The CXO's **Data Center** Modernisation Handbook

From an accumulated estate to a deliberate one:
the forces, the framework, the decisions and the roadmap.

Author:

Muhammad Shariq, General Manager
Rokendra Singh, Product Manager

Proactive Data Systems Pvt Ltd

Cisco Preferred Cloud and AI Partner • Dell Platinum Partner • NetApp Preferred Partner
35 years in enterprise IT • 1,500+ organisations served • 24/7 service desk in India

Table of Contents

<u>About This Handbook</u>	03
<u>Executive Summary</u>	04
<u>1. Why Modernise, and Why Now</u>	05
<u>2. The Six Domains of Modernisation</u>	06
<u>3. Assess: The Modernisation Maturity Curve</u>	07
<u>4. The Decisions That Define Your Estate</u>	08
<u>5. The Roadmap</u>	10
<u>6. Your First 90 Days</u>	11
<u>7. Sustaining It</u>	11
<u>How This Handbook Can Help You Act</u>	12
<u>Appendix A: The Self-Assessment Scorecard</u>	13
<u>Appendix B: Glossary</u>	14
<u>Sources</u>	15

About This Handbook

This handbook is framework-based and deliberately vendor-neutral. Its models, the Five Forces, the Six Domains, the Maturity Curve, the Decision Map and the Roadmap, are drawn from recurring patterns across Indian enterprise modernisation programmes, and are cross-checked against published industry data, which is cited in the Sources section at the end.

Two principles govern it. First, every load-bearing number carries a source and, where the evidence is directional or contested, it is noted as such in the text rather than presented as precise. Second, the analysis is separated from the commercial: the frameworks and decisions in this book would read the same whoever published it, and any note on how a partner can help is confined to a single, clearly-marked page near the end.

On India: Data residency and the DPDP framework are not treated as a single topic here. They run through every domain, force and decision, because in India they shape all of them.

Executive Summary

Most enterprise data centers were not designed. They accumulated, one decision at a time, until running them costs more and constrains more than anyone intended. Modernisation is how you make the estate deliberate again.

In 2026 it stopped being optional maintenance. Five forces, AI density, the reset in virtualisation economics, ransomware, data sovereignty and the return of on-premise economics, have turned modernisation into a board-level programme, and two of the five carry hard regulatory deadlines. This handbook gives CXOs a way to lead that programme end to end: a framework for what modernisation covers, a maturity model to locate where you stand, the decisions that matter with their risks and costs, and a staged roadmap to get there without disrupting the business.

The Five Forces Driving Modernisation



Figure 1: The five forces, and the numbers behind them. Two carry regulatory deadlines.

1. Why Modernise, and Why Now

Modernisation has always been sensible. What made it urgent is that five forces arrived together, and unlike most trends, two of them have dates.

AI Density

Moving AI from pilot to production has turned power and cooling into a hard constraint. GPU racks now draw in the region of 25 to 40 kW, several times a conventional rack of roughly 5 to 10 kW, beyond what air cooling alone can handle. This is an observed, physical shift, so confidence is high. For India, it also intersects with residency: sovereign and on-premise AI keeps regulated training data in-country, which is why AI density and DPDP are often the same conversation.

The Virtualisation Cost Reset

Broadcom's move of VMware to subscription-only bundles has raised many renewals, and VMware vSphere 8 reaches end of general support on 11 October 2027. The direction is not in doubt. The magnitude is: reported increases range widely and are contested, so they should be modelled per estate rather than assumed. What is certain is the deadline and the need to decide before it.

Ransomware

Attackers now target backups first. In the Sophos State of Ransomware 2025 study, 94% of attacks attempted to compromise backups and 57% succeeded, and manufacturing has been the most-attacked sector for five consecutive years. The board's question has shifted from whether backups exist to whether the business can recover, cleanly, in time.

Data Sovereignty

India's DPDP Rules were notified in November 2025, with substantive obligations taking effect around 13 May 2027. This makes where regulated data sits an infrastructure decision. It is a firm date, and it applies across the estate, not only to AI.

The Return of On-Premise Economics

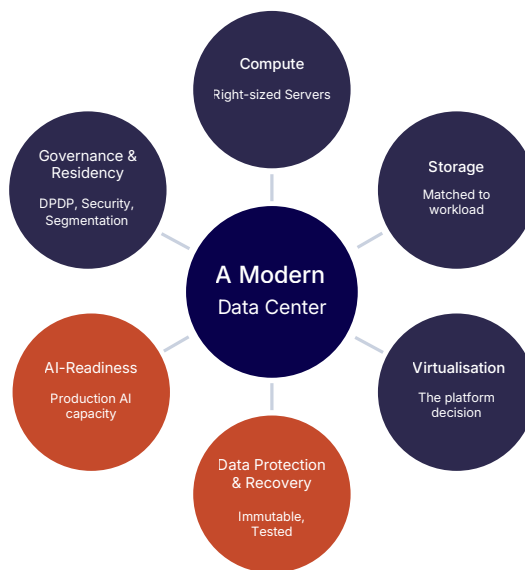
Cloud repatriation is real but selective. In the Barclays CIO survey, 86% of CIOs planned to move at least some workloads back, while only around 8% exit the cloud entirely. For steady workloads, owning costs less than a cloud meter that never stops. The lesson is placement, not retreat.

Key takeaway: Two forces, virtualisation (Oct 2027) and sovereignty (May 2027), carry deadlines. Sequence them first; the rest can be staged.

2. The Six Domains of Modernisation

"Modernisation" is a vague word until you break it into what it covers. It is six domains, and the weakest one usually caps the value of the rest.

The Six Domains of Modernisation



Highlighted in orange: assessment first - they dictate your path

Figure 2: The six domains. Data protection and governance/residency carry the most risk and are assessed first.

A modern estate is not the newest kit in each domain. It is the right choice in each, designed to work together, and governed against India's residency requirements throughout.

How the Frameworks Fit Together

This handbook uses several models, and they nest rather than compete. The Five Forces explain why to modernise now. The Six Domains define what modernisation covers. The Maturity Curve locates where your estate stands. The Decision Map sets out what to choose in each domain. And the Roadmap sequences how to get there. Read in that order, they are one argument, not five.

How the Frameworks Fit Together



Figure 3: The frameworks are one connected argument, from why to how.

3. Assess: The Modernisation Maturity Curve

Before planning a journey, locate the starting point. The Maturity Curve places an estate on one of five stages. Most enterprises sit in the middle, running critical business on infrastructure that has quietly fallen behind. The goal for most is Stage 3, with a clear path to Stage 4.

The Modernisation Maturity Curve

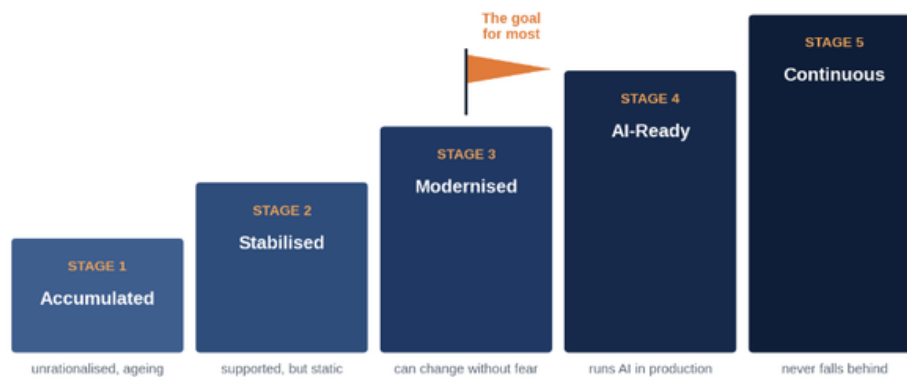


Figure 4: Five stages, from an accumulated estate to modernisation as a discipline.

To keep the model observable rather than a matter of opinion, each stage has checkable indicators. Two assessors applying them should reach a similar score.

Stage	Observable Indicators
1. Accumulated	No current asset inventory; multiple unrationalised sites; equipment past end-of-support still in production
2. Stabilised	Consolidated, supported estate with a documented inventory; but scaling requires re-architecture
3. Modernised	Current hardware; virtualised; backups immutable and recovery tested in the last 6 months; workloads placed by policy; residency mapped
4. AI-Ready	Production AI workloads running; facility carries 25–40 kW racks; storage and fabric sized to feed GPUs
5. Continuous	Modernisation runs on a governed cadence; every new workload passes a six-domain review; residency and recovery are continuously governed

Watch-out: Score below Stage 2 on data protection or governance/residency? Address those first - they carry the most risk, and residency has a deadline.

4. The Decisions That Define Your Estate

Modernisation is a sequence of decisions: one per domain, plus two that cut across the estate, consolidation and financing. Each is summarised below with what tends to be right, its main risk or cost, and its India dimension.

Consolidation

Fewer, better-utilised sites cut power, licensing, support and the security surface. The main risk is downtime during the move; the answer is dependency-ordered, wave-by-wave migration with rollback. Cost is mostly the migration effort, offset quickly by lower running cost. India note: consolidating onto in-country sites can also simplify residency.

Virtualisation

Model your VMware renewal at the new terms against migration to Nutanix, Hyper-V or Red Hat. Some estates should renegotiate and stay; others should move. Risk: a rushed, deadline-driven migration causes outages; cost: the renewal increase or the one-time migration. India note: the platform choice is also a chance to design residency in.

Hybrid placement

Place each workload where it belongs using five factors: data sensitivity, utilisation, performance, cost profile and scalability. Risk: cloud-first by default over-spends on steady workloads; cost: the wasted cloud spend on idle resources. India note: for regulated data, residency can override cost and pin the workload in-country.

Storage

Match the tier to the workload: NVMe all-flash for latency-critical work, scale-out for data that grows, capacity tiers for the cold. Risk: slow storage starves fast compute, wasting GPU and CPU spend; cost: over-buying one premium tier for everything. India note: procurement should insist on genuine, warranted supply, not grey-market stock.

Data protection and recovery

Immutable, isolated backups, a clean-room to restore into, and recovery objectives you have tested. Risk: untested backups fail in an attack, the average enterprise takes weeks to recover; cost: the resilience investment, far smaller than the downtime it prevents. India note: sector rules and DPDP make provable recovery part of compliance.

AI-readiness

Size GPUs to the models, feed them with storage and fabric that will not starve them, and confirm the facility can power and cool the density. Risk: buying GPUs the facility cannot cool strands the capital; cost: power, cooling and networking, not just the accelerators. India note: residency often points AI workloads on-premise or to sovereign infrastructure.

Governance and residency

Under DPDP you must be able to find, secure, recover and, where required, keep in-country any regulated data. Risk: treating this as policy rather than architecture leaves you exposed at audit; cost: the data-mapping and controls programme. India note: this is the domain where India differs most from a global template, and it has a 2027 deadline.

Financing

Own the steady, predictable base (capex); consume the variable layer (opex, DCaaS, cloud). Risk: assuming opex stays off the balance sheet, current lease standards often bring it on; cost: the wrong model for the workload. India note: confirm accounting and tax treatment with local advisers.

Key takeaway: The two decisions with legal deadlines - virtualisation and residency - are sequenced first. The rest are staged by value and risk.

5. The Roadmap: Modernising Without a Forklift Rebuild

You do not modernise an estate in one project. You do it in stages, each delivering value and leaving the estate better than it found it, with the deadline-bound and highest-risk items first.



Figure 5: Value delivered early; heavy capital deferred until workloads justify it.

Phase	Focus	Outcome
0. Assess	Locate on the curve; score the six domains	A gap map and a target stage
1. Stabilise	Consolidate, retire end-of-life, fix the deadline items	A supportable, lower-risk base
2. Modernise	Storage, virtualisation, hybrid placement, cyber recovery	An estate that can change without fear
3. Make AI-ready	Add GPU, fabric, power and cooling as workloads justify	Production AI capability
4. Operate continuously	Governance and refresh as a discipline	An estate that never falls behind

6. Your First 90 Days

You do not need full budget approval to begin. In 90 days you can produce a costed, defensible plan.

Your First 90 Days



Figure 6: A 90-day path to a baseline, a target and a costed roadmap.

- Weeks 1–4: locate the estate on the curve and score the six domains, with particular attention to virtualisation and residency, the two deadline-bound items.
- Weeks 4–8: prioritise, model the VMware decision and the highest-value moves, and set the hybrid placement principles.
- Weeks 8–12: produce a phased roadmap with a budget, and validate the riskiest assumptions, facility capacity and the migration approach, with a survey and a pilot.

7. Sustaining It

The estates that stay modern treat modernisation as an operating discipline, not a one-off project. That means revisiting placement and refresh on a cadence, applying the six-domain lens to every new workload before it lands, and governing residency and recovery continuously rather than auditing them once.

Stage 5 on the curve is not a bigger project than Stage 4. It is the decision to never let the estate accumulate its way backward again.

A NOTE FROM THE PUBLISHER

How This Handbook Can Help You Act

The frameworks in this handbook are vendor-neutral by design, and hold whoever you work with. This page, clearly separated from the analysis, is where the publisher's role is stated plainly.

Proactive Data Systems designs, builds and operates modern data center and AI infrastructure for Indian enterprises across all six domains, and can run the assessment and roadmap described here. It is a Cisco Preferred Cloud and AI Partner, Dell Platinum Partner and NetApp Preferred Partner, with 35 years in enterprise IT, more than 1,500 organisations served, and a 24/7 service desk in India. To locate your estate on the curve and build a costed roadmap, you can ask Proactive for a data center modernisation assessment.

Appendix A: The Self-Assessment Scorecard

Score each domain 0–4 against the Maturity Curve indicators. Average for your stage.

Domain	Score (0–4)	Evidence / Gap
Compute		
Storage		
Virtualisation		
Data protection & recovery		
AI-readiness		
Governance & residency		
Average = your stage	___ / 4	

Priority rule: Below 2 on data protection or governance/residency? Fix those first — highest risk, and residency carries a deadline.

Appendix B: Glossary

Term	Definition
AI factory	Infrastructure built to train and run AI as its primary workload.
AI-ready	A data center able to run AI in production across all six domains.
Hyperconverged infrastructure (HCI)	Compute, storage and virtualisation combined into one software-defined platform.
Immutable backup	A backup copy that cannot be altered or deleted once written, for a set period.
Clean-room recovery	Restoring systems into an isolated, known-good environment to avoid reinfection.
Cloud repatriation	Moving workloads from public cloud back to on-premise or colocation.
Colocation	Owning the hardware but housing it in a third-party data center.
DCaaS	Data Center as a Service; dedicated infrastructure consumed as an operating expense.
DPDP	India's Digital Personal Data Protection framework; obligations from 13 May 2027.
Spine-and-leaf	A low-latency data center network design for east-west, AI traffic.
Sovereign AI	Running AI on infrastructure you control, with data kept in-country.

Sources

AI rack density and India data center growth: India data center market analyses, 2026. VMware licensing and vSphere 8 end of general support (11 October 2027): VMware/Broadcom licensing analyses, 2026. Ransomware and backups (94% attempted, 57% succeeded) and manufacturing as most-attacked sector: Sophos State of Ransomware 2025 and industrial ransomware reporting, 2025. DPDP Rules notified November 2025, substantive obligations 13 May 2027: MeitY / EY analyses. Cloud repatriation (86% of CIOs; ~8% full exit): Barclays CIO Survey and IDC, 2024–25. Figures are cited as directional where the underlying evidence varies; verify against the latest data before acting.

This handbook is general guidance, not legal, financial or technical advice. Confirm regulatory obligations with qualified counsel and validate sizing and costs against your own estate before committing budget.

Proactive Data Systems is an enterprise IT infrastructure and services company. For more than three decades, the company has designed, deployed, and operated the technology foundations behind some of India's most demanding enterprise environments, from regulated industries to large distributed operations.

Founded in 1991, Proactive serves more than 1,500 customers, from fast-growing businesses to Fortune 500 enterprises, across banking and financial services, manufacturing, healthcare, public sector, IT and ITES, retail, education, and global capability centres. Our work spans enterprise networking, cybersecurity, cloud and AI-ready data centres, collaboration platforms, structured cabling, and managed services.

A Cisco Preferred Partner under the Cisco 360 Partner Program, Proactive is recognised across the Networking, Security, Collaboration, Cloud & AI, and Services portfolios, and is a Cisco Advanced Customer Experience Specialised Partner. The company is ISO 9001:2015 and ISO/IEC 27001 certified, and engineers solutions in partnership with Dell, Nutanix, NetApp, Palo Alto Networks, Fortinet, VMware, Veeam, and CommScope.

Headquartered in Delhi NCR, with offices in Mumbai, Bengaluru, Pune, Hyderabad, Indore, and Singapore.

To learn more about our solutions, write to us
at pro@proactive.co.in

 www.proactive.co.in

PROACTIVE™
Enhancing Digital Experience