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Out of Support, Still in Production: A Fixed-Fee Refresh Assessment for One Agency Data Center

Data Center Implementation: find what is past end of support, sequence the refresh inside your existing footprint, and order hardware in time for it to land.

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Executive Summary

Most agencies still run an on-premises data center, and much of what sits in it is reaching end of support at the same time. SQL Server 2016 left Microsoft support on July 14, 2026. Windows Server 2016 follows on January 12, 2027. CISA BOD 26-02 (February 2026) puts end-of-support edge devices on a retirement schedule. When a component stops receiving vendor fixes, the plan of action and milestones (POA&M) entries tied to it cannot be closed by patching. They can only be closed by replacing the component.

OMB M-19-19, issued in June 2019, told agencies not to build or significantly expand agency-owned data centers without OMB approval. Modernization therefore happens inside the existing footprint, on a calendar set by vendor support dates, hardware lead times, change windows and fiscal-year money. Few agencies still have the in-house data center engineers who used to plan that work.

This paper is for infrastructure branch chiefs, the CIO who funds refresh, ISSMs holding findings they cannot close, and the CORs who buy the work. It describes Avalon Technology Services' Data Center Implementation service, which starts with one engagement:

- **A fixed-fee refresh assessment and roadmap for one site.** One unclassified data center or server room over four to six weeks: inventory, dependency map, usage baseline, an end-of-support register, options analysis, a sequenced modernization roadmap, a vendor-neutral bill of materials (BOM) specification and independent government cost estimate (IGCE) support. Avalon prices it at \$35K to \$75K firm fixed price; the illustrative five-week case lands at about \$43K.
- **Separately priced follow-ons.** Detailed design, build, migration and decommissioning, scoped from the roadmap and quoted on their own.

Section 9 works through an illustrative site. As of October 1, 2026, 18 database instances are already past end of support and 168 more items reach it within 12 months. Even with hardware ordered six weeks after the roadmap, the last Windows Server 2016 workloads move about 196 days after that product's end of support. The roadmap cannot erase that gap; it sizes it and sets the latest date for each order.

Avalon specifies; the agency buys the hardware and licenses. Avalon does no electrical, cooling or construction work, resells nothing, and does not grant or certify an authorization. The agency's assessor assesses controls, and the Authorizing Official (AO) decides.

Out of Support, Still in Production

The need shows up in the same phrases across agencies. Each one points to a refresh that should have started a budget cycle ago.

What the branch chief or ISSM says	What it usually means
"Everything's on extended support."	Several platform generations are reaching end of support together, and the extensions are buying time, not a plan
"We can't get parts anymore."	Hardware support has lapsed; a failure becomes an outage instead of a ticket
"Our POA&M has findings we literally cannot close."	Unsupported components get no vendor fixes, so remediation means replacement
"The last contractor moved 80% to the cloud and left."	What stayed behind is undocumented, underused and still on the books
"One more summer like the last one and that room cooks."	Facility capacity is a constraint the facility owner must confirm before any build

Why It Concentrates in Government

- **Money follows the budget calendar, not the failure calendar.** One-year operations and maintenance funds and multi-year procurement funds have to be programmed ahead of the end-of-support date.
- **Consolidation drained the skill.** Years of consolidation policy assumed these rooms were going away, and the engineers who ran them retired or moved on.
- **Some workloads stay.** Latency-bound systems and stranded estates after a partial cloud move keep an on-premises footprint in place.

The Mandates and the Calendar

Driver	What it says	What it means for this engagement
OMB M-19-19 (issued June 2019)	Data Center Optimization Initiative; no new or significantly expanded agency-owned data centers without OMB approval	Modernize inside the existing footprint; the roadmap does not propose new floor space
SQL Server 2016 and Windows Server 2016 end of support	Jul 14, 2026 and Jan 12, 2027	Database instances are already unsupported; server workloads follow in FY2027 Q2
CISA BOD 26-02 (Feb 6, 2026)	End-of-support edge devices: inventory in 3 months, decommission in 12, replace in 18	Edge firewalls and VPN appliances go to the front of the order queue
CISA BOD 26-04 (Jun 10, 2026)	Replaced BOD 22-01 and BOD 19-02; risk-based remediation clocks of 3, 14 and 60 days	An unsupported component cannot meet a remediation clock, which is the urgency case
NIST SP 800-53 Rev. 5	CM-8 component inventory, SA-22 unsupported system components, SI-2 flaw remediation	The inventory and end-of-support register are direct evidence
NIST SP 800-37 Rev. 2	Seven-step RMF, Prepare through Monitor	A rebuilt environment re-enters RMF; the build follow-on delivers the Implement step
OMB M-26-14 (May 2026)	Risk-based logging model; replaced M-21-31	New hosts and appliances must feed the agency's logging from day one

Typical triggers: an end-of-support wave, a lease or building decision, a power or cooling outage, an inspector general or GAO finding, a stranded estate after a cloud move, or a virtualization renewal quote. Much of the work is funded in the fourth-quarter operations and maintenance sweep.

What the Assessment Does

The assessment comes before any hardware order or build. It establishes what is actually in the room, what each item depends on, when each one runs out of support, and what order of work gets the site to a supported state with the least exposure.

Workstream	Activities
Discovery and baseline	Automated inventory from the agency's virtualization exports (for example RVTools) and existing discovery tools; application-to-server dependency mapping; capacity and usage baseline; a physical walk with the facility owner covering rack elevations, cabling and per-circuit power readings
End-of-support register	Every host, VM operating system, database instance, storage array, switch and edge appliance with its end-of-support date and source, mapped to the POA&M items it blocks
Options analysis	Refresh, replatform, retire or hand to cloud migration per class; platforms (vSphere, Nutanix AHV, Hyper-V or OpenShift Virtualization) weighed on the agency's licensing and skills
Refresh sequencing	Wave order, change-window assumptions, lead-time bands and the latest order date for each hardware class, with the fiscal year each buy falls in
BOM specification and IGCE support	Vendor-neutral specifications annotated for TAA and Section 889, plus an IGCE input; Avalon sells no hardware
Roadmap and briefing	A sequenced modernization roadmap inside the existing footprint, and a briefing for the CIO, branch chief and ISSM

Deliverables

Deliverable	Format
Current-state assessment and dependency map	PDF report plus source data in XLSX or JSON
End-of-support register and sequencing workbook	XLSX, with every date and assumption editable by the agency
Options analysis and modernization roadmap	PDF, with a one-page summary for the budget office
Vendor-neutral BOM specification with TAA and Section 889 annotations	XLSX
IGCE support worksheet	XLSX
Executive briefing	Slide deck and live outbrief

Where the Assessment Stops

The assessment produces a plan and a specification. Detailed high-level and low-level design, the build, migration waves and decommissioning are separately priced follow-ons. Workloads bound for commercial cloud go to Avalon's separate Cloud Migration & Development service; steady-state operation goes to its Network/Database Administration and Enterprise Monitoring services.

Evidence the ISSM Can Use

Control or task	Evidence produced	When
CM-8	Validated component inventory with owners and dependencies	Assessment
SA-22	End-of-support register with replacement dates and a documented plan for each unsupported component	Assessment
SI-2	POA&M items mapped to the replacement that closes them	Assessment
CM-2, CM-6	Baseline configurations hardened to DISA STIGs or CIS Benchmarks, with SCAP output	Build follow-on
MA-2, MA-4	Maintenance and remote-maintenance procedures in the turnover package	Build follow-on
CP-6, CP-7, CP-9	Backup and alternate-site posture documented for the rebuilt environment	Build follow-on
SC-7	Boundary design for the replacement edge and data center network	Build follow-on
MP-6	NIST SP 800-88 sanitization certificates per device, with chain of custody	Decommission follow-on

PE-family physical controls belong to the facility owner; Avalon records what the owner confirms and does not assess it. The accurate way to state the value of the full service: Avalon delivers a STIG-hardened, fully documented environment with assessment-ready configuration artifacts. Control assessment and the authorization decision remain with the agency's assessor and Authorizing Official.

Accurate	Not accurate
An inventory and end-of-support register the ISSM can attach to POA&M items	Closes findings by itself
Assessment-ready configuration artifacts from the build	Grants, guarantees or speeds an ATO
A roadmap inside the existing footprint	Makes the agency compliant with data center policy

How an Engagement Runs

Phase	Timing	What happens
Kickoff and access	Week 1	Confirm the site and caps, start badging and escort arrangements on day one, issue the data call, request read-only privileged access
Discovery	Weeks 1–3	Inventory exports, dependency interviews with application owners, usage baseline, physical walk with the facility owner
Register and validation	Weeks 3–4	End-of-support register and dependency map reviewed and corrected with the branch chief
Options and roadmap	Weeks 4–5	Options analysis, sequencing workbook, BOM specification, IGCE support
Briefing	Weeks 5–6	Draft roadmap, five-business-day agency review, final deliverables, executive outbrief

What the Agency Provides

- One point of contact with authority, usually the branch chief or the COR, who can unblock access and scheduling.
- Badging and escort arrangements started on day one, and read-only privileged accounts by the end of week 1.

- Existing documentation (diagrams, inventories, support contracts, POA&M), assumed to be out of date and priced that way.
- Application owners for one dependency interview each, and the facility owner for the physical walk.
- Agency-caused delays move the schedule day for day. If the site exceeds the inventory caps in the assumptions table by more than 10%, the price is revisited by modification.

What Is Not Included

Included	Separate work
Recording facility-owner capacity confirmations	Electrical, UPS, generator, cooling, fire suppression or construction
A vendor-neutral BOM specification	Hardware or license sales, OEM quotes or reseller margins
A sequenced roadmap	Detailed design, build, migration and decommissioning
Evidence for the ISSM and assessor	The control assessment, the ATO or any certification
Unclassified sites	Classified or air-gapped environments

How Avalon Staffs It

Avalon takes one engagement at a time, works business hours, and works on unclassified sites only. Avalon's founder serves as project manager. The technical lead is a named infrastructure architect, with a named cybersecurity engineer part time. Avalon has no past federal engagements under this service. FAR 15.305 says an offeror without a record of past performance may not be evaluated favorably or unfavorably on that factor; what protects the agency is a named team, a fixed price, capped scope and a short schedule. Avalon never assesses an environment it designed or built.

Requirement	How it is handled
Infrastructure architect and cybersecurity engineer	Named personnel whose certifications and investigation level match the agency's requirements, listed in the proposal, hired or subcontracted
DoD privileged access	Qualification under the DoD cyber workforce rules the site requires, as a condition of the engagement
Site access	Public Trust or clearance at the level the site requires, as a condition of the engagement
Hardware channel	None; Avalon holds no OEM or reseller partnership and sells no hardware or licenses
Insurance and contract vehicles	Any coverage the solicitation requires is a condition of award; Avalon does not hold a GSA Schedule or a governmentwide contract today

Pricing and How to Buy

Engagement	Market-norm services price	Duration	Avalon
Tier 0: assessment and roadmap, one site	\$35K–\$75K FFP	4–6 weeks	Offered now, firm fixed price
Tier 1: server room or edge site (up to 5 racks, 50 workloads)	\$75K–\$250K	2–4 months	Follow-on, one at a time
Tier 2: single data center refresh or consolidation (10–40 racks, 50–300 workloads)	\$250K–\$900K	5–10 months	Only when carefully scoped; above the SAT it goes through a prime
Tier 3: multi-site program	\$1M–\$5M+	12–24 months	Not offered

Hardware typically runs 1.5 to 4 times the services value; the agency buys it through its own channels, such as NASA SEWP, against the BOM specification. Avalon uses one rate card across its Cloud & IT Infrastructure Services work: architect \$160 to \$210 an hour, infrastructure engineer \$115 to \$155, cybersecurity engineer \$140 to \$185, and project manager \$125 to \$165.

The Tier 0 assessment sits under the \$350,000 simplified acquisition threshold, so it can be bought as an open-market purchase. Purchases between the \$15,000 micro-purchase threshold and the SAT are generally set aside for small business when two or more capable small businesses are expected to compete. A prime holding a larger infrastructure task order can subcontract the work to Avalon. Avalon does not hold a GSA Schedule or a governmentwide contract today.

Illustration: One Site on the Clock

The figures below are a planning illustration for one representative site, not a quote and not a result from any engagement. The Windows Server 2016 and SQL Server 2016 dates are the published end-of-support dates; every other date, count and rate is an assumption the agency replaces with its own data.

Component class	Count	End of support	Refresh path
SQL Server 2016 database instances	18	Jul 14, 2026	Upgrade; move first
Windows Server 2016 virtual machines (including the 18 database VMs)	140	Jan 12, 2027	Rebuild on a supported OS, retire, or hand to cloud migration
Edge firewall and VPN appliances	2	Dec 31, 2026	Replace (BOD 26-02 scope)
Virtualization hosts and storage arrays	26	Sep 30, 2027	Refresh as one buy
Data center switches	12	Mar 31, 2028	Refresh in FY2028
Virtual machines on a supported OS	80	Outside window	Move as is

Status Quo: What Goes Past End of Support

Quarter end	SQL 2016 instances	Windows 2016 VMs	Edge appliances	Hosts and storage	Items past end of support
FY27 Q1 (Dec 31, 2026)	18	0	2	0	20
FY27 Q2 (Mar 31, 2027)	18	140	2	0	160
FY27 Q3 (Jun 30, 2027)	18	140	2	0	160
FY27 Q4 (Sep 30, 2027)	18	140	2	26	186
FY28 Q1 (Dec 31, 2027)	18	140	2	26	186

If nothing changes, 186 items are past end of support by the end of FY2027, and every POA&M item tied to them stays open because no vendor fix will come.

Sequencing the Refresh

The base case assumes the roadmap is delivered Dec 7, 2026, the agency places hardware orders 6 weeks later (Jan 18, 2027), lead times sit mid-band, the build takes 8 weeks, and the agency grants 2 change windows a week at 6 migration units each. Database VMs move first and count double; discovery retires 10% of the other VMs.

Scenario	Hosts ready	Last SQL 2016 move (days past EOS)	Last Windows 2016 move (days past EOS)	All moves done	Before host support ends?
Base	May 3, 2027	May 24, 2027 (314)	Jul 27, 2027 (196)	Sep 7, 2027	Yes, 3.3 weeks spare
Top of lead-time bands	May 24, 2027	Jun 14, 2027 (335)	Aug 17, 2027 (217)	Sep 28, 2027	Yes, 0.3 weeks spare
One change window a week	May 3, 2027	Jun 14, 2027 (335)	Oct 20, 2027 (281)	Jan 12, 2028	No, 14.9 weeks late
Four change windows a week	May 3, 2027	May 13, 2027 (303)	Jun 14, 2027 (153)	Jul 5, 2027	Yes, 12.4 weeks spare
25% of VMs to cloud migration	May 3, 2027	May 24, 2027 (314)	Jun 30, 2027 (169)	Aug 11, 2027	Yes, 7.1 weeks spare

Three things stand out. First, no sequence gets the database and Windows Server 2016 workloads off unsupported software in time; the agency needs a documented interim position, such as vendor extended-support terms or an AO risk acceptance. Second, change windows matter more than lead times: one window a week pushes the last move to Jan 12, 2028, after the hosts themselves lose support, while four windows finish by Jul 5, 2027. Third, sending 46 VMs to cloud migration shortens the moves by about 3.9 weeks, without changing the order of work.

Latest Order Dates

Hardware class	Lead-time band	Latest order, mid-band	Latest order, top of band	Fiscal year
Edge firewall and VPN appliances	6–16 weeks	Oct 1, 2026 (passed)	Aug 27, 2026 (passed)	FY2027
Virtualization hosts and storage arrays	4–10 weeks	Feb 9, 2027	Jan 19, 2027	FY2027
Data center switches	6–16 weeks	Dec 3, 2027	Oct 29, 2027	FY2028

The edge pair is already late at both ends of its band, so it is ordered as soon as the assessment confirms the specification, and the agency's own BOD 26-02 plan sets the interim position. The host and storage refresh must be ordered by Jan 19, 2027 if lead times run to the top of the band, leaving almost no slack against the planned order date. The switch refresh can wait for FY2028 money, but only if it is programmed now. The build follow-on for this site (26 hosts, about 200 workloads) falls in the Tier 2 band and is bought separately, through a prime if it exceeds the SAT.

What the Assessment Costs

Case	Staffing	Hours	Range at rate card	Inside \$35K–\$75K?
4 weeks	Architect 0.75, cyber 0.25, PM 0.25	200	\$30K–\$39K	Low end under the floor; priced at \$35K
5 weeks (base)	Architect 0.75, cyber 0.25, PM 0.25	250	\$37K–\$49K	Yes
6 weeks	Architect 0.75, cyber 0.25, PM 0.25	300	\$45K–\$59K	Yes
Larger site, 6 weeks	Architect 1.0, engineer 0.5, cyber 0.25, PM 0.25	480	\$68K–\$90K	No; upper rates break the ceiling

At 40 hours a week, the base case runs 250 hours and \$37K to \$49K; Avalon would quote about \$43K. Four weeks falls below the \$35K floor at low rates, so \$35K is the minimum. A larger site needing a full-time architect and a half-time engineer breaks the \$75K ceiling at upper rates, so the assumptions table caps the scope at 1 site, 250 VMs, 40 physical hosts and 20 racks.

Common Pitfalls

Pitfall	How to avoid it
"While you're in there" application fixes	Application changes are separate work; the roadmap names them
Facility surprises	Facility-owner confirmation of power, cooling and floor loading before any build
Undocumented dependencies	Dependency interviews in discovery; capped re-plans in the follow-on
Ordering after the window closes	Latest order dates in the roadmap, by fiscal year
Hardware bundled into the services price	The agency buys hardware against the BOM; Avalon sells none
Overselling the result	Use the accurate phrasing; the assessor and the AO decide

Conclusion and Next Step

End of support does not wait for the budget cycle. A site that knows what it has, when each item runs out, and the latest date each order can go out can make the gap short and visible. A site that finds out from a failed part or an unclosable finding has fewer options left.

The natural first step is the fixed-fee assessment: one unclassified site, four to six weeks, under the simplified acquisition threshold, ending in a validated inventory, an end-of-support register, a sequenced roadmap inside the existing footprint and a vendor-neutral BOM specification. To discuss a site, contact Avalon Technology Services at contact@AvalonTechServices.com.

Appendices

Appendix A: Glossary

BOM

Bill of materials: the hardware and software specification the agency buys against.

End of support (EOS)

The date after which a vendor stops issuing fixes for a product.

IGCE

Independent government cost estimate, prepared by the government before a purchase.

SCAP

Security Content Automation Protocol; automated checks that produce configuration evidence.

STIG

Security Technical Implementation Guide, the DISA configuration standard for a product.

Appendix B: Illustration Assumptions

All values are planning assumptions for one representative site. None is drawn from a specific agency or a completed engagement.

Assumption	Value	Basis
Snapshot and kickoff	Status quo at Oct 1, 2026; kickoff Nov 2, 2026; roadmap Dec 7, 2026	Planning assumption
Order placement	6 weeks after the roadmap (Jan 18, 2027)	Planning assumption
Lead times	Servers and storage 4–10 weeks; switching and edge 6–16 weeks; mid-band in the base case	Market-norm bands
Build	8 weeks for hosts and storage; 2 weeks for the edge pair; 6 weeks for switching	Planning assumption inside market-norm ranges
Migration	6 units per window, 2 windows a week; database VMs count 2 units	Planning assumption
Non-Microsoft end-of-support dates	Edge Dec 31, 2026; hosts and storage Sep 30, 2027; switches Mar 31, 2028	Planning assumption
Rates and loading	Avalon rate card; architect 0.75, cyber 0.25, PM 0.25 at 40 hours a week	Market norms
Scope caps	1 site, 250 VMs, 40 hosts, 20 racks; re-price above 10%	Model rule

Appendix C: References

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