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DESIGN STUDY

Certified engineers for a 600-store SD-WAN rollout: 20 stores a night, every task by a certified hand

Complete design on current platforms

CAPABILITY	INDUSTRY	SETTING
Strategic Resourcing	Retail	Home-improvement retailer
DOCUMENT	**VERSION**	**DATE**
RES-005	1.1	Oct 10, 2026

WRITTEN BY

Avinash Dhinakaran, Principal Integration Architect

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Document control

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Author	Avinash Dhinakaran	Role	Principal Integration Architect
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Approval	Approved by Edwin Ozer, Founder, Oct 10, 2026. Issued by Symbeeo, Oct 10, 2026. Design study: every figure is vendor-published, a design target or a marked assumption.		
Sign-off	"An engagement under this design is signed by the practice lead before any build proceeds."		

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CONVENTIONS

Source tags. [S] figure or clause read from the vendor's, issuer's or standards body's own current page on Sep 24, 2026, or on Sep 27, 2026 where the text says so · [S*] figure from the page summary where the page itself could not be opened · [A] assumption about the typical buyer, to be confirmed by the signing engineer · [T] design target taken from the design's stated outcome or derived from it. Every figure carries at least one tag. No figure comes from any prior engagement, file or asset. A row with more than one tag is counted once: as a published figure if any tag is [S] or [S*], otherwise as an assumption if any tag is [A], otherwise as a design target.

Table 1. Revision history

Date	Version	Change
Sep 27, 2026	1.0	First issue.
Oct 10, 2026	1.1	Approval line now reads: approved by the Founder, issued by Symbeeo. Avinash Dhinakaran remains the author.

1 · Scope

Who it is for. The head of store technology at a retailer replacing the firewall and WAN router in every store overnight, who needs to know before the first night that each engineer touching a store holds the certification the task needs, that it is valid on that night, and that someone certified stands behind them.

Typical buyer [A]. A home-improvement retailer with 600 stores in three countries. One FortiGate 70G per store replaces a router and a firewall; stores join an SD-WAN overlay to two hubs. Cutover runs overnight, 20 stores a night, 4 nights a week, one country at a time [A].

What is in. The roles and the certification each task requires; the resource register; the check of every certification at its issuer; backups per role per night; the expiry watch across the rollout. **What is out.** The SD-WAN design and templates (NET design studies); sourcing of the 600 appliances, which runs under SRA-RES-001 §4.1–4.7; store opening hours and change freeze, which the retailer sets.

Assumptions. On-site installers rack, cable and power the appliance and hand console access to a remote engineer; they configure nothing [A]. Configuration arrives by zero-touch provisioning from the retailer's central manager [A]. Each store has a 500 Mbps primary link and a secondary link [A].

Related documents, read Sep 24, 2026. SRA-RES-001 · SDD-RES-001 · STP-RES-001 · FortiGate/FortiWiFi 70G Series data sheet (https://www.fortinet.com/content/dam/fortinet/assets/data-sheets/pdf/fortigate-fortiwifi-70g-series.pdf) · Fortinet, NSE Certification Program Updates 2026, effective Jul 15, 2026, read Sep 27, 2026 (https://www.fortinet.com/nse-training-update) · Fortinet Training Institute Help Desk, "How will my current certifications transition to the new NSE certifications on July 15, 2026?", modified Jul 16, 2026, read Sep 27, 2026 (https://helpdesk.training.fortinet.com/support/solutions/articles/73000667146-how-will-my-current-certifications-transition-to-the-new-nse-certifications-on-july-15-2026-) · Credly, Fortinet badges, read Sep 27, 2026 (https://www.credly.com/organizations/fortinet/badges) · Fortinet Engage Partner Program (https://www.fortinet.com/partners/partner-program/become-a-fortinet-partner) · 1EdTech Open Badges (https://www.1edtech.org/standards/open-badges) · Credly, Open Badge 3.0 support, Oct 16, 2024 (https://learn.credly.com/blog/credly-supports-open-badge-3.0) · ISO/IEC 17024:2026 (https://webstore.iec.ch/en/publication/112952) · SFIA 9 (https://sfia-online.org/en/sfia-9/skills/all-skills-a-z).

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1c · Public implementations this design follows

Table 2. Public implementations this design follows

Implementation	Who published it · date	What it settles for this design	URL
NSE Certification Program Updates 2026	Fortinet · effective Jul 15, 2026 (read Sep 27, 2026) · vendor documentation, used to build our own design	Fortinet's certifications moved from five levels to eight on Jul 15, 2026, each valid for two years. NSE 5: an NSE 4 certification (FortiOS Administrator exam) plus one NSE 5 proctored exam, SD-WAN Core Administrator among them. NSE 7: NSE 4, an NSE 5 or NSE 6 certification in the same track, and one NSE 7 proctored exam, Secure Networking Architect among them. R4, R5 and §4.4 use those terms as written	https://www.fortinet.com/nse-training-update
Transition of FCP and FCSS certifications to NSE levels	Fortinet Training Institute Help Desk · modified Jul 16, 2026 (read Sep 27, 2026) · vendor documentation, used to build our own design	Each active FCP or FCSS certification was reissued on Jul 15, 2026 as an NSE certification with the same expiry date: FCSS in Secure Networking with Enterprise Firewall Administrator became NSE 7 in Secure Networking; FCP in Secure Networking with FortiOS Administrator became NSE 4. An engineer's older badge is therefore read at its NSE name (R8)	https://helpdesk.training.fortinet.com/support/solutions/articles/73000667146-how-will-my-current-certifications-transition-to-the-new-nse-certifications-on-july-15-2026-
ISO/IEC 17024:2026	ISO / IEC · edition 3, Mar 31, 2026 · published standard, used to build our own design	The current standard for bodies that certify persons; where a role can be met by more than one certification, one from a body accredited to it is preferred (§4.3)	https://webstore.iec.ch/en/publication/112952
A Brazilian automotive retailer, Fortinet Secure SD-WAN across 130 sites	Fortinet customer story · case-study PDF dated Aug 12, 2026 (read Sep 27, 2026) · public deployment	A Brazilian automotive retailer with 130 dealerships in 14 states replaced unmanaged VPNs and mixed vendors with FortiGate NGFWs and Fortinet Secure SD-WAN at every site, centrally managed. It shows the multi-site FortiGate SD-WAN rollout this design staffs; it publishes no staffing or certification figures, which this design study adds	https://www.fortinet.com/customers/grupo-parvi

The certification names were read on Sep 27, 2026: Fortinet replaced the FCP and FCSS names with NSE levels on Jul 15, 2026, so R4, R5 and §4 use the NSE names. The Engage Partner Program's per-level certification counts were not read on Fortinet's own page and are not used.

2 · Requirements register

Table 3. Requirements register

#	Requirement	Value	Source
R1	Stores cut over	600, at 20 a night, 4 nights a week: 80 a week, 7.5 weeks of nights	[T]

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#	Requirement	Value	Source
R2	Appliance per store	FortiGate 70G: desktop; firewall 10 / 10 / 10 Gbps (1518 / 512 / 64 byte UDP); IPS 2.5 Gbps; NGFW 1.5 Gbps; threat protection 1.3 Gbps; IPsec VPN 7.1 Gbps; 200 gateway-to-gateway tunnels	[S] Fortinet data sheet
R3	Store link against appliance	500 Mbps primary is 38 % of the 1.3 Gbps threat-protection figure	[A] link; [T] derived
R4	Cutover engineer's certification	Fortinet NSE 5 with the SD-WAN Core Administrator exam, on top of an NSE 4 certification (FortiOS Administrator exam); valid two years	[S] Fortinet, NSE program update, read Sep 27, 2026
R5	Architect's certification	Fortinet NSE 7 in Secure Networking: NSE 4, an NSE 5 or NSE 6 certification in the same track, and the NSE 7 Secure Networking Architect exam; valid two years	[S] Fortinet, NSE program update, read Sep 27, 2026
R6	Every configuration task done by an engineer holding the task's certification, valid that night	100 % of tasks	[T]; SRA-RES-001 R13
R7	Certification valid on the task date plus a margin	expiry ≥ 120 days after the task, or the task is reassigned	[A]; SRA-RES-001 §8
R8	Certification checked at the issuer	≤ 30 days before the engineer's first night	[A]; SRA-RES-001 R14
R9	Named, certified backup per role per night	≥ 1	[A]; SRA-RES-001 R15
R10	Engineers per night	20 installers, 4 cutover engineers (5 stores each), 1 architect on call	[A]
R11	Backups per night	2 installers, 1 cutover engineer, 1 architect	[T] derived from R9, R10
R12	Skill level recorded per role	SFIA 9: HSIN systems installation and removal; NTAS network support; SUPP supplier management	[S] SFIA 9
R13	Open Badges 3.0 credentials	checked by signature as W3C Verifiable Credentials	[S] 1EdTech
R14	Night's stores confirmed staffed	by 12:00 the day before	[A]

Fourteen rows; five carry an issuer's, vendor's or standards body's figure, six are design assumptions, three are design targets.

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3 · Architecture overview

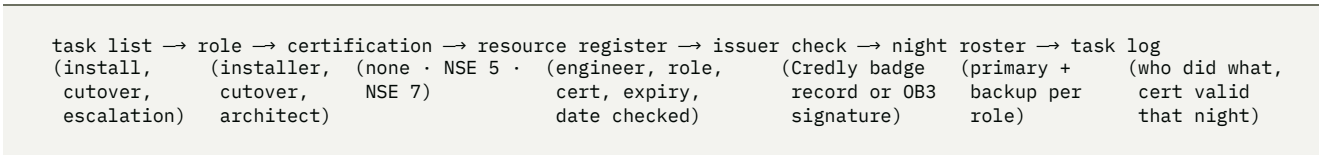


Figure 1. Task-to-roster certification flow

The task, not the person, carries the requirement: a task names the certification it needs, and the roster can only place someone whose register entry shows it valid on that night.

Table 4. Architecture overview

Role	Tasks	Certification required	SFIA 9 skill	Per night: primary · backup
On-site installer	rack, cable, power, console handover; photograph and sign off	none from the manufacturer; the rollout's method statement, signed	HSIN	20 · 2
Cutover engineer	confirm zero-touch configuration arrived; bring up the overlay; verify policy and traffic; release the store	NSE 5 with SD-WAN Core Administrator (R4)	NTAS	4 · 1
SD-WAN architect	escalation; template fault; any change to the design on the night	NSE 7 in Secure Networking (R5)	NTAS	1 · 1
Rollout coordinator	roster, register, issuer checks	none	SUPP	1 · 1

4 · Design by subsystem

4.1 Task-to-certification map.

Three task classes [A]. Physical work needs no manufacturer certification, only the signed method statement. Configuration and cutover need NSE 5 with the SD-WAN Core Administrator exam (R4) [S]. Design decisions on the night need NSE 7 in Secure Networking, whose Secure Networking Architect exam lists SD-WAN Enterprise Administrator among its recommended training [S] (R5). Rejected: requiring NSE 5 of the installers — it doubles the certified headcount for work that touches no configuration.

4.2 Resource register.

Per engineer: name, role, each certification with issuer, date earned, expiry and date last checked, SFIA 9 skill (R12) [S], countries cleared to work in [A]. Held in the retailer's system of record (SRA-RES-001 D4), not Symbeeo's.

4.3 Issuer check.

Every certification is checked at its issuer within 30 days before the engineer's first night (R8): a Fortinet badge at its Credly record, issued by Fortinet [S]; an Open Badges 3.0 credential by its signature, since each is a W3C Verifiable Credential signed by its issuer [S]. Credly verifies uploaded Open Badge 3.0 credentials [S], so one portal serves both. A certification that cannot be checked at the issuer is not used. Where a role could be met by certifications from several bodies, one from a body accredited to ISO/IEC 17024:2026 is preferred [S].

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4.4 Expiry watch.

Every NSE certification is valid for two years, and a certification reissued from FCP or FCSS on Jul 15, 2026 keeps its old expiry date [S]. An engineer whose certification expires within 120 days after a scheduled night is renewed or taken off that night's roster (R7) [A]. Across a rollout of 7.5 weeks of nights (R1), the watch runs once, before the first night, and again on any roster change [T].

4.5 Night roster.

26 primaries and 5 backups a night — R10 and R11 plus the coordinator and its backup [T]. The roster closes at 12:00 the day before (R14); an unfilled role holds the stores it covers, not the whole night [A].

4.6 Task log and the appliance.

Every task is logged with the engineer and the store; the log is compared weekly with the register (STP-RES-001 T14). A store's 500 Mbps link is 38 % of the 70G's 1.3 Gbps threat-protection figure [T] derived from R2, R3; four overlay tunnels per store to two hubs use 4 of the 200 gateway-to-gateway tunnels the data sheet lists [A], [S].

5 · Failure behavior

Table 5. Failure behavior

Failure	Behavior	Source
Cutover engineer unavailable on the night	backup takes the five stores; if the backup is already used, those five stores are held	[A]
Certification found expired at the issuer check	engineer removed from the roster; renewal booked; register flagged	[T]
Credential cannot be verified at the issuer	treated as absent; engineer not rostered for tasks needing it	[T]
Architect paged twice in one night	the design fault is logged and the next night's stores wait for the fix	[A]
Installer finds the wrong appliance in the box	store held; unit returned under SRA-RES-001 §4.7	[A]
More stores than the roster covers	stores beyond the staffed count move to the next night	[T]

6 · Limits

- The Engage Partner Program's certification counts per partner level were read only on third-party copies and are not used; the integrator's own status is checked at Fortinet's partner locator.
- Certification names and exam titles follow Fortinet's pages as read on Sep 27, 2026, after the Jul 15, 2026 change from FCP and FCSS to NSE levels; Fortinet renames tracks between versions, so the register records the name printed on the badge.
- 20 stores a night is a staffing assumption, not a tested rate; the first week sets the real one.
- Appliance figures are the vendor's published maxima, not measured store traffic.
- No figure here has been measured.

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7 · Lessons learned

None yet — this is a design study; populated after the first build against it.

8 · The author

WRITTEN BY

Avinash Dhinakaran

Principal Integration Architect

iSAQB Certified Professional for Software Architecture – Advanced Level (CPSA-A), Oracle Certified Consultant – Value Chain Planning, Master Data Management, SCM Cloud

Signed off by Edwin Ozer, Founder.

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Figures are as published by their sources on the dates given in this document; figures marked [A] are assumptions.

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