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Servitization and Market Segmentation in Nairobi's Level 4 to 6 Hospitals: Evidence for Joint Planning Under Kenya's Social Health Authority, Policy Recommendations for the Ministry of Health, Nairobi City County, the Social Health Authority, and Hospital Management Boards

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Abstract
Kenya's Social Health Authority (SHA) and Social Health Insurance Fund (SHIF), introduced in October 2024, reimburse differentiated care pathways, which raises the stakes of how hospitals organize their service offerings (servitization) and identify and serve distinct patient groups (market segmentation). We did not identify earlier evidence on how the two practices relate in African hospitals under a national insurance reform. This policy brief draws on a census of the 105 Level 4 to 6 hospitals in Nairobi City County (80.8% effective response). Servitization and market segmentation were highly and reliably adopted (Cronbach's alpha = .941 each) and strongly correlated ($r = .713$, $p < .01$), driven by the technology and data dimensions; condition based clinical segmentation, the most endorsed practice (mean 4.61), was the exception. Digital platform adoption grew 25.5% a year over 2022 to 2024, and staff satisfaction was the weakest performance dimension. The brief does not claim that either strategy causes better performance. Current data show a reform under strain: SHIF disbursed KSh 102.7 billion to 6,139 facilities between October 2024 and March 2026, yet paid out about Sh34 billion more than it collected in 2024/25, counties were owed at least Sh26.87 billion by March 2026, and a 43 day nurses' strike ended in September 2026. The brief makes eight recommendations for the Ministry of Health, SHA, Nairobi City County and hospital boards, with responsibilities and indicators, to be piloted and monitored.

Keywords: policy brief, servitization, market segmentation, Social Health Authority, Level 4 to 6 hospitals, Nairobi, Kenya

1. Introduction

1.1 The Policy Problem

This brief distills evidence from a census survey of 105 Level 4 to 6 hospitals in Nairobi City County into guidance on how servitization strategy and market segmentation should be planned, budgeted and governed. Consistent with the research design, it presents servitization and market segmentation as strategic practices that are strongly associated with one another; it does not

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claim that either strategy causes improved hospital performance. Hospital operational performance is presented separately, on its own descriptive terms, and readers should not infer a causal chain between the strategic practices and the performance evidence.

1.2 Current Context

Kenya's health financing architecture changed fundamentally in October 2024, when the Social Health Authority and its Social Health Insurance Fund replaced the National Hospital Insurance Fund, introducing a graduated, needs based contribution and reimbursement system spanning primary care, chronic disease management and specialized treatment at Level 4 to 6 facilities (Kenya Social Health Insurance Act, 2023). Between July 2025 and April 2026, SHIF disbursed KSh 65.4 billion to 4,718 facilities, with Level 4 and Level 5 hospitals receiving nearly three quarters of total payments (Nation Media Group, 2026). Over the longer period from October 2024 to March 2026, SHIF reports KSh 102.7 billion disbursed, 9.9 million claims processed, 6,139 facilities paid and more than 31 million members registered (Social Health Authority, 2026).

The reform is also under strain. In 2024/25 SHIF collected Sh57.7 billion in contributions but paid Sh91.5 billion in claims, a deficit of nearly Sh34 billion (Nation Africa, 2026b). SHA owed county health facilities at least Sh26.87 billion at 31 March 2026, more than three times the Sh8.29 billion outstanding at the end of December 2025, and system glitches have forced facilities back to manual processes (Nation Africa, 2026a). These conditions raise the importance of how hospitals organize service lines, use digital systems and sustain their workforce.

1.3 Research Gap and Novelty

Servitization, the shift from selling products to providing integrated services, has been studied mainly in manufacturing (Stošić Panić & Živković, 2024), and in health care the value of a service oriented approach has been examined in a single hospital in the United Kingdom (Ali & Dzandu, 2023). Patient segmentation is usually discussed as a population health tool. We did not identify a study that examines servitization and market segmentation together in hospitals, in Africa, or under a national insurance reform that pays for differentiated care. This brief is novel in four ways: it measures both practices in the same census of hospitals; it shows that they are strongly associated and share a technology and data base; it shows that condition based clinical segmentation follows a partly independent logic; and it reports hospital operating performance separately so that readers are not led to infer an effect. It does not show that either practice improves performance.

2. Evidence Base

2.1 Source Study

The brief draws on a census of the 105 Level 4 to 6 hospitals in Nairobi City County, the population of hospitals at these levels in the county, with an effective response rate of 80.8% (about 85 hospitals). A census was used because the population is small, and no sample was

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drawn; the 19.2% who did not respond (about 20 hospitals) are a source of possible non response bias, since the respondents' level, ownership and size profile relative to the population is reported in the thesis and was not compared here. Servitization strategy and market segmentation were measured as strategic practices on five point scales, and hospital operational performance was measured independently across four pillars: patient outcomes and quality, efficiency and patient flow, capacity and financial health, and staff and regulatory compliance. Digital platform adoption and a Digital Intensity Score were tracked over 2022 to 2024. The data are cross sectional and predominantly self reported.

2.2 Statistics in Plain Terms

Reliability. A Cronbach's alpha of .941 for each scale means the statements within each scale agree closely; it does not by itself show that the scale measures the right thing. **Association.** A correlation of .713 means the two practices rise together; it shares about half of the variance (.713 squared is about .51), so they are related but still distinct levers. **Digital measures.** A compound annual growth rate of 25.5% describes how fast digital platform adoption grew over 2022 to 2024, and a Digital Intensity Score of 0.61 means about six in ten value added service lines depend on digital systems. **Performance.** Performance is described separately (pillar means above 4.25 of 5, except where noted) and the patient outcomes sub scale was less reliable (alpha .566), so self reported quality should not be treated as a validated measure. **Self report.** Most ratings are self reported by hospitals and may be favorable; no analysis here links the strategy measures to the performance measures.

3. Key Findings

Servitization strategy and market segmentation were both highly and reliably adopted (Cronbach's alpha = .941 for each; item means generally 4.10 to 4.61 on a five point scale) and were strongly and significantly correlated ($r = .713$, $p < .01$): hospitals that servitize more deeply also tend to segment their markets more deeply (Table 1). The association is strong enough to be managerially meaningful but well below the level at which the two constructs would be the same thing, so they remain distinct levers that reinforce one another. The association was driven substantially by the technology and data dimensions of servitization, which suggests that digital investment is a shared enabling asset for both agendas.

One clear exception: condition based (clinical) segmentation, the practice of identifying and organizing care around specific chronic conditions, correlated only weakly and inconsistently with several servitization dimensions despite being the most strongly endorsed segmentation practice (mean 4.61). It follows a partially independent, medically driven logic and should be resourced deliberately.

Segmentation is most mature where it has a direct commercial or clinical payoff (tiered pricing for the same core treatment, 4.60; analytics based identification of chronic need patients, 4.61) and least mature where it serves equity or access goals: health literate patient education (4.12), terrain adaptive logistics (4.20) and behavioral payment data (4.27). In servitization, digital

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platform adoption grew at a compound annual rate of 25.5% between 2022 and 2024, and the Digital Intensity Score of 0.61 indicates that about six in ten value added service lines are digitally dependent, a gain that is also a concentration risk. Board level ratification of service led strategy was the smallest absolute indicator, suggesting that governance follows rather than leads operational change.

Operational performance was strong overall (all pillar means above 4.25; overall alpha = .819), with two caveats: the patient outcomes sub scale had weak reliability (alpha = .566, below the conventional .60), so self reported quality data should not be treated as a validated metric, and a service strain pattern emerged in which staff satisfaction was the weakest dimension (about 78% on a normalized scale).

Table 1. Summary of findings and policy relevance

Finding area	Key result	Policy relevance
Servitization and segmentation	Both highly adopted (alpha = .941); correlated r = .713	Plan and fund capability building jointly
Clinical segmentation	Most endorsed practice (4.61) but weakly related to servitization	Treat as a distinct funding and governance line
Digital intensity	Platform adoption up 25.5% a year; Digital Intensity Score 0.61	Continuity planning; concurrent budgeting for segmentation
Performance measurement	Pillar means above 4.25; patient outcomes alpha = .566; staff satisfaction weakest (about 78%)	Validated multi pillar reporting with a workforce indicator
Equity oriented segmentation	Lowest rated: health literacy 4.12, terrain logistics 4.20	Targeted last mile and health literacy support

Note. Source: Field survey data and recorded indicators, retabulated from the underlying thesis analyses (2026). The findings do not show that servitization or segmentation causes better performance.

Figure 1 summarizes the relationships found and the limits on interpretation.

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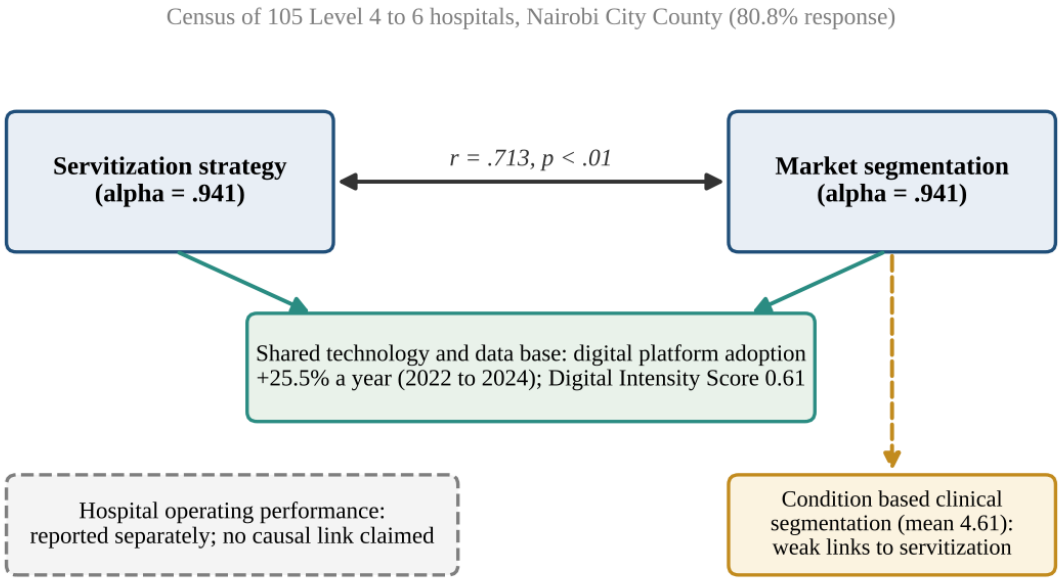


Figure 1. Servitization, market segmentation, the shared technology and data base and clinical segmentation. Source: Field survey data (census of 105 hospitals, 80.8% response); dashed boxes indicate no relationship claimed.

4. Policy Recommendations

4.1 Recommendations

For the Ministry of Health and the Social Health Authority. Recommendation 1: encourage joint capability building that addresses servitization and market segmentation investment together, and not through separate marketing and digital health funding streams, given the strong, technology mediated association between them. With more than 31 million members registered and 9.9 million claims processed (Social Health Authority, 2026), the reform already runs on shared digital infrastructure; the recommendation follows from the strong association and shared technology base of the two practices (Table 1).

Recommendation 2: treat condition based segmentation as a distinct funding and governance line, since it does not follow reliably from general servitization investment and is central to SHIF's chronic disease and specialized care categories. SHA's design includes a separate emergency, chronic and critical illness fund alongside SHIF and a primary health care fund (Nation Africa, n.d.), which supports a dedicated line; it follows from the finding that clinical segmentation does not follow reliably from general servitization investment (Table 1).

Recommendation 3: require standardized, multi pillar, reliability tested performance reporting, including a validated patient outcomes measure and an explicit workforce well being indicator, as a condition of SHIF facility contracting, and not rely on financial throughput or self reported satisfaction alone. With SHIF paying out about Sh34 billion more than it collected in its first

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year (Nation Africa, 2026b) and 1,188 fraud files reported (Nation Africa, 2026a), performance and integrity reporting is a financial as well as a quality matter.

For Nairobi City County and county health leadership. Recommendation 4: support targeted investment in the last mile segmentation gap, namely terrain adaptive logistics and outreach for infrastructure poor neighborhoods, since current geographic segmentation favors well connected urban areas by default and not by equity design. About 4.4 million SHIF members did not specify a county of residence (Nation Africa, 2026b), a data gap that complicates county planning.

Recommendation 5: consider incentives (grants, technical assistance or SHIF linked recognition) for health literacy adjusted patient communication, an area that lags every other segmentation practice examined and plausibly bears on readmission risk among lower literacy patients. No current figure on patient health literacy in Nairobi hospitals was found, so the effect of such incentives should be evaluated.

For Hospital Management Boards. Recommendation 6: where digital service delivery investment is planned, budget concurrently for the segmentation capability it will likely enable (patient data analytics and customer relationship tools), since the two have moved together. System problems make this practical: a private hospital survey found downtime affecting 73% of facilities and one time password delays affecting 71% (People Daily, n.d.).

Recommendation 7: establish business continuity plans proportionate to the sector's Digital Intensity Score of 0.61, given that more than half of value added service delivery is now digitally dependent. SHA system glitches have at times lasted almost a week and forced manual processes (Nation Africa, 2026a), which shows the exposure.

Recommendation 8: elevate staff satisfaction to a tracked, board level performance indicator alongside patient satisfaction, in response to the service strain pattern. The risk is visible nationally: a 43 day nurses' strike ended on 9 September 2026 (Musambi, 2026), a strike by health unions demanding permanent employment for 7,800 workers began on 20 July 2026 (K24 Digital, 2026), and a 2025 survey of 157 private and faith based facilities found 85% had reduced staff and 71% reported more voluntary resignations (Business Daily, 2025).

Table 5 sets out the responsibilities, cost drivers and feasibility of each recommendation.

4.2 Current Evidence Supporting the Recommendations

Table 2 sets out current figures that bear on each recommendation, with their sources. Official statistics are used where available; where they were not accessible, figures reported by the press or by industry surveys are used and are identified as such. Figures that are dated, or that come from press or industry sources, should be refreshed and checked against the original publications when new data are released.

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Table 2. Current figures supporting the recommendations

Recommendation	Figure	Source (type, date)
1. Joint capability building	SHIF October 2024 to March 2026: KSh 102.7 billion disbursed; 9.9 million claims; 6,139 facilities paid; over 31 million members; over 10,700 facilities contracted	Social Health Authority (2026), official impact report
1. Joint capability building	July 2025 to April 2026: KSh 65.4 billion to 4,718 facilities; Level 4 and 5 hospitals receive nearly three quarters of payments	Nation Media Group (2026), press report of Treasury and SHA data
2. Clinical segmentation funding line	SHA has three funds: SHIF, Primary Health Care Fund, and Emergency, Chronic and Critical Illness Fund	Nation Africa (n.d.), interview with the Principal Secretary
3. Performance reporting	2024/25: Sh57.7 billion collected against Sh91.5 billion paid in claims; 1,188 fraud files; 40 facilities suspended	Nation Africa (2026b, 2026a)
4. Last mile segmentation	About 4.4 million SHIF members did not specify county of residence	Nation Africa (2026b), citing the Economic Survey 2026
5. Health literacy	No current figure on patient health literacy found; study: health literate education rated 4.12, the lowest segmentation practice	Field survey data (2026); gap noted by the authors
6, 7. Digital budgeting and continuity	Downtime affects 73% of facilities; one time password delays 71%; SHA owed county facilities at least Sh26.87 billion by March 2026	People Daily (n.d.), private hospitals survey; Nation Africa (2026a)
8. Staff satisfaction	Nurses 43 day strike ended 9 September 2026; unions strike over 7,800 workers from 20 July 2026; 85% of surveyed private facilities cut staff and 71% reported more resignations	Musambi (2026); K24 Digital (2026); Business Daily (2025)

Note. Source: As cited. Press and association survey figures were not checked against original publications; SHA (2026) is the official source for SHIF totals.

Figure 2 shows the financial strain on the reform.

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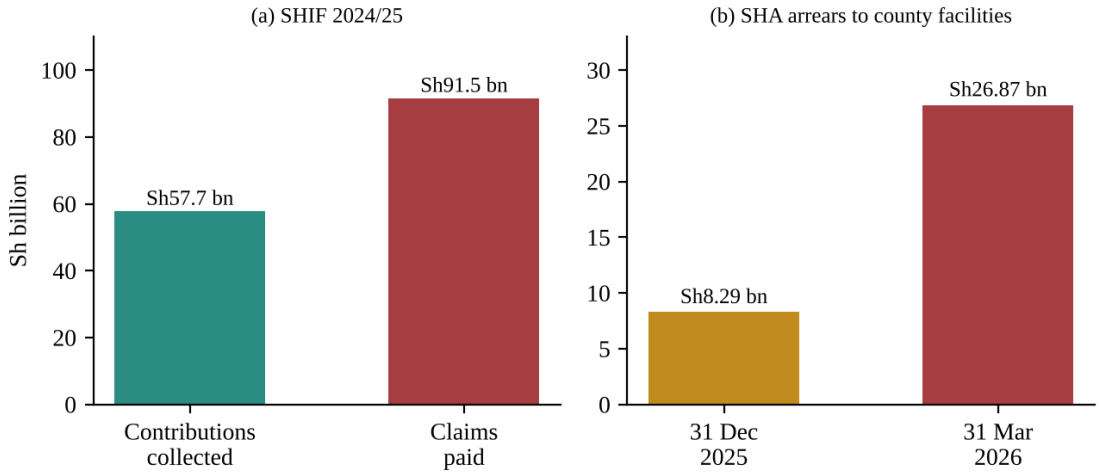


Figure 2. (a) SHIF contributions collected and claims paid, 2024/25; (b) SHA arrears to county health facilities. Source: Nation Africa (2026a, 2026b), press reports of the Economic Survey 2026 and the Controller of Budget.

4.3 Recommendation Matrix

Table 3 gives the lead institution, instrument, timing and indicator for each recommendation.

Table 3. Recommendation matrix

Recommendation	Lead	Instrument	Timing	Indicator
1. Joint capability building	Ministry of Health; SHA	Combined capability programme	6 to 12 months	Hospitals in joint programme
2. Clinical segmentation line	Ministry; SHA	Distinct funding and governance line	6 to 18 months	Funding allocated; hospitals reporting
3. Multi pillar reporting	SHA	Condition of facility contracting	12 to 24 months	Facilities reporting with validated measures
4. Last mile segmentation	Nairobi City County	Targeted outreach and logistics support	12 to 24 months	Neighborhoods served
5. Health literacy incentives	Nairobi City County; SHA	Grants or recognition	12 to 24 months	Hospitals with adjusted materials
6. Concurrent budgeting	Hospital boards	Board budget rule	0 to 12 months	Projects with segmentation budgets

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Recommendation	Lead	Instrument	Timing	Indicator
7. Continuity plans	Hospital boards	Plan proportionate to digital intensity	0 to 12 months	Hospitals with tested plans
8. Staff satisfaction indicator	Hospital boards	Board dashboard indicator	0 to 12 months	Boards tracking the indicator

Note. Source: Authors' proposal.

4.4 Implementation Roadmap

Table 4 sequences the work over 36 months, starting with pilots that use existing channels.

Table 4. Roadmap

Period	Actions	Output
0 to 6 months	Boards adopt continuity plans and staff satisfaction indicators; design the reporting template	Plans adopted; draft template
6 to 12 months	Launch joint capability programme; define the clinical segmentation line; pilot reporting in selected hospitals	Programme; pilot results
12 to 24 months	Make reporting a contracting condition; launch last mile and health literacy support in Nairobi	Contracting rule; county programme
24 to 36 months	Evaluate against outcomes and workforce indicators; revise; consider other counties	Evaluation report

Note. Source: Authors' proposal.

4.5 Feasibility, Cost Drivers and Responsibility

Table 5 sets out who is responsible, what drives the cost and why each recommendation is feasible within existing mandates. No cost figures are given because none could be verified from public sources; each pilot should begin with a bottom up costing.

Table 5. Responsibilities, cost drivers and feasibility

Recommendation	Responsible institution	Main cost drivers	Feasibility
1. Joint capability building	Ministry of Health; SHA	Programme design; training	Medium
2. Clinical segmentation funding line	Ministry of Health; SHA	Fund design; contract terms	Medium: needs a budget line
3. Multi pillar reporting	SHA	Template; validation; hospital reporting time	Medium: reuse SHA data

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Recommendation	Responsible institution	Main cost drivers	Feasibility
4. Last mile segmentation	Nairobi City County	Outreach and logistics support	Medium
5. Health literacy incentives	Nairobi City County; SHA	Grants or recognition; materials	Medium
6. Concurrent budgeting	Hospital boards	Board rule; planning time	High
7. Continuity plans	Hospital boards	Plan development; testing	High
8. Staff satisfaction indicator	Hospital boards	Indicator and survey	High

Note. Source: Authors' assessment. Responsibilities follow existing roles and are for confirmation by the institutions named.

4.6 Monitoring and Evaluation

Table 6 lists indicators with reference points; the study values are from the source survey and the other values are as cited.

Table 6. Indicators and reference points

Indicator	Reference point	Direction	Frequency
Correlation of servitization and segmentation	r = .713 (study)	Monitor	Each survey
Digital Intensity Score	0.61 (study)	Monitor with continuity cover	Annual
Staff satisfaction (normalized)	About 78% (study)	Up	Annual
SHIF disbursement and facility coverage	KSh 102.7 billion; 6,139 facilities (SHA, 2026)	Track	Annual
Claims arrears to county facilities	At least Sh26.87 billion (Nation Africa, 2026a)	Down	Quarterly
Facilities affected by system downtime	73% (People Daily, n.d.)	Down	Each survey

Note. Source: Authors' proposal; reference points as cited.

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4.7 Risks and Mitigation

Table 7 lists the main risks, with the reason for each likelihood rating.

Table 7. Risks and mitigation (authors' judgment)

Risk	**Likelihood and basis**	**Mitigation**
Reporting burden on hospitals	Medium: facilities already report to SHA	Standardize and reuse SHA data; phase in
Payment arrears undermine participation	High: counties were owed at least Sh26.87 billion	Link reporting to timely reimbursement
Strikes and workforce disputes disrupt pilots	High: a 43 day strike ended in September 2026	Include a workforce indicator; coordinate with employers
Equity programmes underfunded	Medium: county budgets are constrained	Use SHA recognition and county grants

Note. Source: Authors' assessment; likelihoods are judgments, not estimates.

4.8 Limits of the Evidence

Seven limits apply. First, the evidence is drawn from a single, urban, infrastructure rich county and from cross sectional, predominantly self reported data, so it may not generalize to less resourced counties. Second, the response rate was 80.8%, and the 19.2% who did not respond may differ from respondents. Third, the financial and patient outcome measures rely on perceptual and not fully audited data, and the patient outcomes sub scale was less reliable. Fourth, this brief does not present evidence, and makes no claim, that servitization or market segmentation causes improved operational performance: the correlational finding concerns the relationship between the two strategies, and the performance evidence is descriptive and separate; readers who need guidance on performance consequences should consult a causal or longitudinal study. Fifth, the additional figures come from the SHA report (official), press reports of the Economic Survey 2026 and of the Controller of Budget, and an association survey

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of private hospitals; the periods differ across sources. Sixth, health sector conditions are changing quickly. Seventh, the recommendations should be piloted and monitored.

5. Conclusion

SHA and SHIF have changed what hospitals are paid to do, and servitization and market segmentation are strategic practices that move together in Nairobi's Level 4 to 6 hospitals, driven by shared digital and data investment. Planning them jointly, funding clinical segmentation as its own line, reporting performance on validated measures that include the workforce, and protecting digital continuity can support well founded planning without over claiming what the evidence shows. The measures should be piloted and monitored.

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