Accelerating Adobe Experience Platform Adoption

The AI-Driven Path to Web SDK Migration

A Technical Whitepaper by moonbird AI

Executive Summary

Organizations leveraging Adobe Analytics face a critical inflection point: migrating from AppMeasurement to Adobe Web SDK offers immediate benefits including improved performance, simplified implementation, and enhanced data collection capabilities. Beyond these standalone advantages, it also serves as the essential gateway to Customer Journey Analytics (CJA) and the full power of Adobe Experience Platform (AEP). Traditional migration approaches consume 3-6 months of valuable time and resources. moonbird AI has developed a proprietary AI-powered solution that transforms this complex process, enabling complete migrations in as little as 2 weeks while maintaining full data integrity and business logic. It is important to note that our AI-powered solution specifically focuses on the technical conversion from AppMeasurement to Web SDK implementation. This represents the critical first step and typically most resource-intensive phase of the full migration to Customer Journey Analytics (CJA) and Adobe Experience Platform (AEP).

Key Benefits:

- Reduce migration timeline by up to 90%
- Minimize business disruption
- Accelerate access to advanced analytics capabilities
- Ensure complete conversion accuracy with expert oversight

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1 The Web SDK Migration Imperative

1.1 Why Migration Matters

> **Critical Insight:** Adobe Web SDK isn't just an upgrade—it's the foundation for next-generation analytics capabilities and real-time customer experiences.

Adobe Web SDK represents a fundamental shift in digital analytics architecture:

- **Unified Data Collection**: Consolidates multiple Adobe libraries into a single, streamlined SDK
- **Real-Time Activation**: Enables immediate data usage for personalization
- **Future-Proof Foundation**: Supports evolving Adobe technology ecosystem
- **Customer Journey Analytics**: Unlocks cross-channel analysis capabilities

1.2 The Traditional Migration Challenge

Converting from AppMeasurement to Web SDK traditionally involves:

- Complete manual rebuild of analytics implementations
- Extensive testing across environments
- Complex data mapping and variable conversion
- Risk of data collection disruption
- Significant internal resource allocation
- Uncertain timelines and budgets

2 moonbird AI's Revolutionary Solution

2.1 AI-Powered Automation at Scale

Our proprietary conversion engine analyzes existing AppMeasurement implementations and automatically translates them to Web SDK format, preserving:

- Business rules and logic
- Custom variables and events
- Data layer structures
- Marketing campaign tracking
- E-commerce functionality

2.2 Human Expertise Layer

Adobe-certified specialists provide critical oversight:

- Review automated conversions for completeness

- Address edge cases and custom implementations
- Validate data integrity before deployment
- Ensure alignment with best practices

3 Technical Architecture

The moonbird AI Web SDK migration tool employs a multi-layered approach to ensure accurate, efficient conversion with flexible schema options to meet diverse organizational needs:

3.1 Component Analysis Engine

Our system performs a comprehensive inventory of your existing implementation, creating a detailed map of all extensions, data elements, rules, and their interdependencies. The engine specifically identifies Analytics-related actions (such as "set variables," "send beacon," and "clear variables") for conversion to Web SDK equivalents, while precisely preserving all other components unchanged in their original form. This targeted approach ensures that only the necessary components are transformed while maintaining the integrity of your complete implementation.

3.2 Intelligent Mapping Layer

The heart of our solution is a sophisticated mapping system that handles the translation between AppMeasurement and Web SDK paradigms through three distinct schema approaches:

Option 1: Data Object Implementation For organizations prioritizing continuity, this approach maintains data flow exclusively to Adobe Analytics without routing to Adobe Experience Platform. Variables transform from `s.eVar1` format to `data._adobe.eVar1`, preserving one-to-one mapping while modernizing the implementation method.

Option 2: XDM Schema Integration with Analytics Template Our standard approach automatically maps traditional Analytics variables to the Experience Data Model (XDM) schema structure required by Web SDK. Specifically, we use the "Adobe Analytics ExperienceEvent Template" field group to ensure we leverage the automatic mapping to Analytics provided by Adobe. This field group is also the default used by Adobe's Analytics source connector in AEP, enabling dual data flow to both Adobe Analytics and Adobe Experience Platform simultaneously.

Option 3: Semantic Schema Transformation For organizations committed to full Adobe Experience Platform adoption, this advanced option completely transforms your data structure from legacy Analytics naming conventions (eVars, props) to semantically meaningful field names. For example, `s.eVar1` containing page name data would map to `pageDetails.pageName` in the XDM schema. This approach requires commitment to AEP/CJA as your primary analytics platform, as it doesn't maintain backward compatibility with traditional Adobe Analytics reporting.

Multi-Property Unification Our intelligent mapping layer excels at handling complex organizational structures with multiple web properties and report suites. The system analyzes each property's unique variable usage (where eVar1 might track different data across properties) and creates unified semantic schemas that preserve the distinct business logic of each implementation while enabling cross-property analysis in Customer Journey Analytics.

3.3 Variable Transformation System

One of the most complex aspects of Web SDK migration is the conversion of variable handling, which our system manages through pattern recognition and business logic preservation:

- **eVar and prop mapping**: Intelligently converts these to their chosen schema equivalents with proper field path notation
- **Event handling**: Transforms traditional event syntax to XDM-compliant format across all schema options
- **Data element references**: Preserves all dynamic data references while updating their implementation method
- **Products**: Analytics products, merchandising eVars and events are transformed into XDM compliant object arrays
- **SDR Integration**: Leverages existing Solution Design Reference documents to understand business requirements and map them to appropriate new schema locations

3.4 Schema Development and Lineage Tracking

Our system creates and maintains comprehensive documentation of data transformation decisions:

Custom Schema Creation For semantic implementations, our AI analyzes business requirements from existing SDRs and automatically generates custom XDM schemas in Adobe Experience Platform, complete with appropriate field groups and data types.

Dataset Configuration The system automatically creates corresponding datasets in AEP with proper schema associations and data collection settings.

Lineage Documentation We maintain detailed mapping records showing exactly how each original variable (eVar1 from Property A, eVar1 from Property B) maps to its new location in the unified schema, enabling complete traceability and easy troubleshooting.

3.5 AI-Powered Conversion Core

For complex implementations with custom code or unique configurations, our AI system analyzes implementation patterns beyond standard variables, interprets the intent behind custom solutions, and generates equivalent Web SDK implementations that maintain the same functionality while respecting the chosen schema approach.

3.6 Migration Scope and Boundaries of the Proprietary Tool

It's important to understand the specific technical capabilities and limitations of our proprietary conversion tool, independent of the additional services our experts may provide during a complete migration engagement. The following outlines exactly what our AI-powered tool itself handles:

What Our Automated Tool DOES Convert:

- **Automated Variable Translation**: Converting all s.* variables to their appropriate XDM schema equivalents
- **Event Handling Conversion**: Transforming how events are set, sent, and updated

- **Implementation Code Migration**: Moving from s code paradigms to Alloy methods
- **Analytics Integration**: Ensuring continued data flow to Adobe Analytics

The automated migration process maintains your existing connection to Adobe Analytics, ensuring continuity of your current analytics capabilities while positioning you for future expansion.

What Our Automated Tool Does NOT Handle:

- Consent management modifications
- Audience Manager configurations
- Server-side forwarding setup
- Customer attributes integration

Note that while these capabilities are outside the scope of our automated tool itself, many can be addressed by our Adobe-certified specialists as part of a comprehensive migration engagement. The specific services included in your migration will be outlined in your contract and can be customized based on your organization's needs.

3.7 Technical Implementation Details

Our proprietary solution is built on a foundation of cutting-edge technologies to ensure reliability, scalability, and security:

- **Adobe Reactor API Integration**: Direct interaction with the Adobe Experience Platform Tags API (Reactor API) allows secure, programmatic access to property configurations, enabling automated migration without manual intervention.
- **Reasoning LLM Architecture**: We employ advanced reasoning-based Large Language Models that go beyond pattern matching to understand the intent and purpose behind implementation decisions, particularly valuable for complex custom code segments.
- **Multi-Stage Processing Pipeline**: Our conversion engine employs a multi-stage pipeline that first maps standard patterns, then processes edge cases through specialized modules, ensuring complete coverage of all implementation scenarios.

This technical foundation allows us to deliver consistent results across diverse implementation styles and organizational requirements while maintaining the highest standards of security and data integrity.

Critical Insight: Custom consent management handling remains as is.

Critical Insight: Our proprietary tool only transforms actions, and elements of the Analytics extension. Other extensions are not modified.

4 Quality Assurance Framework

Our migration tool incorporates multiple validation layers to ensure data integrity:

4.1 Validation Methodology

- **Structural Validation**: Ensures the converted implementation maintains the same structure and element relationships as the original
- **Event Sequence Validation**: Verifies that trigger conditions and action sequences match between implementations
- **Data Mapping Validation**: Confirms all variables and values are properly translated to XDM schema

4.2 Expert Oversight

While our AI handles the technical conversion, Adobe-certified specialists:

- Review automated conversions for edge cases
- Validate data collection methods
- Ensure alignment with Adobe best practices
- Verify XDM schema compliance

4.3 Data Integrity Verification

Before deployment, our system performs comprehensive checks to ensure:

- All data elements are properly referenced
- Event triggers fire at the correct moments
- Variables contain the expected values
- Data layer interactions are maintained

5 Implementation Process

1. **Phase 1: Discovery**
    - Implementation audit
    - Stakeholder interviews
    - Technical assessment
    - Migration roadmap creation
2. **Phase 2: Conversion**
    - AI-powered translation
    - Expert review
    - Custom logic refinement
    - Testing framework setup
3. **Phase 3: Validation**
    - Staging environment testing

- Data integrity verification
- Performance benchmarking
- Stakeholder review

4. **Phase 4: Deployment**
    - Phased rollout strategy
    - Monitoring setup
    - Team training
    - Documentation delivery

6 Next Steps: Transform Your Analytics Capability

> The path to advanced analytics begins with Web SDK migration. Don't let traditional approaches delay your access to Customer Journey Analytics and Adobe Experience Platform.

Our Web SDK migration solution provides the critical foundation for your Adobe Experience Platform journey. While this migration focuses specifically on converting your implementation from AppMeasurement to Web SDK, it establishes the technical framework required for subsequent steps toward full AEP and CJA adoption. Our team can provide guidance on the complete roadmap to AEP implementation following the successful Web SDK migration.

Limited-Time Offer: Free Migration Assessment

Schedule a consultation to:

- Review your current implementation
- Identify migration complexity
- Receive a customized timeline estimate
- Learn about potential cost savings

Contact us today:

- **Email**: ciara@moonbird.ai
- **Website**: www.moonbird.ai/offerings/adobe-web-sdk-migration

About moonbird AI

moonbird AI specializes in human-centered AI solutions for analytics and digital transformation. Our team combines deep Adobe expertise with cutting-edge AI capabilities to deliver innovative solutions that accelerate business value while respecting human needs.

We elevate how organizations operate by creating indispensable solutions.