TECHNICAL WHITE PAPER · ACR EVALUATOR SERIES

An Automated Framework for Determining ICT Accessibility Requirements

How the ACR Evaluator maps ICT products and services to applicable accessibility standards, requirements, and evaluation criteria

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ABSTRACT

Modern Information and Communication Technology (ICT) solutions frequently span multiple domains — software, web applications, mobile applications, telecommunications, multimedia, electronic documents, hardware devices, and support services. Determining which accessibility requirements apply to these increasingly complex solutions is critical to producing accurate, consistent, and defensible accessibility assessments.

This white paper describes the automated methodology the ACR Evaluator uses to identify applicable accessibility requirements through three integrated components: the Applicability Engine Specifications, the ICT Classification-to-Criteria Crosswalk Framework, and the Accessibility Evaluation Framework.

Executive Summary

Modern Information and Communication Technology (ICT) solutions increasingly combine multiple functional domains — software, web content, mobile applications, electronic documents, telecommunications, multimedia, hardware devices, and support services. As products converge, determining which accessibility requirements apply to a given solution has become substantially more complex.

Traditional accessibility reviews rely on manual interpretation of Section 508, Section 255, WCAG, and related standards. That approach introduces inconsistency between reviewers, increases evaluation effort, and creates a real risk of overlooking applicable requirements or applying criteria that do not belong. The quality of an assessment is therefore decided before testing begins — in how accurately its scope is set.

The ACR Evaluator addresses this with a rules-based applicability engine that automatically maps one or more ICT classifications to the appropriate accessibility requirements, testing methods, and evaluation criteria. The solution rests on three foundational components:

1. Applicability Engine Specifications — the logic used to determine which requirements apply.
2. ICT Classification-to-Criteria Crosswalk Framework — the authoritative mapping from ICT characteristics to accessibility requirements.
3. Accessibility Evaluation Framework — the criteria, test methods, scoring models, and reporting structure used during assessment.

Together, these components turn accessibility evaluation from a manual standards-interpretation exercise into a repeatable, transparent, and auditable process.

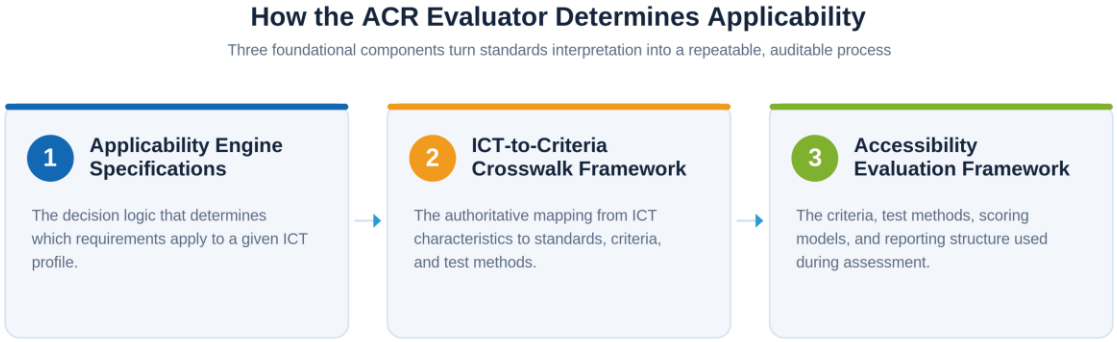

Figure 1 — The three components that drive automated applicability determination.

The Accessibility Applicability Challenge

The Revised Section 508 Standards and Section 255 Guidelines recognize that modern technologies often perform several functions at once. A single product may be a software application, a web application, a mobile application, a telecommunications platform, and a

documentation repository simultaneously. Collaboration platforms, learning management systems, customer relationship management systems, video conferencing solutions, and self-service kiosks each illustrate this convergence, and each may require evaluation against multiple standards and technical provisions.

Without a structured applicability methodology, evaluators face two failure modes:

- False Inclusion — applying requirements that are not relevant to the ICT under evaluation, which wastes effort and weakens the report with irrelevant findings.
- False Omission — failing to evaluate requirements that do apply, which leaves accessibility barriers undetected and creates a compliance gap that surfaces later during procurement or audit.

Both undermine the credibility of the result. Accurately determining the applicable requirements before evaluation begins is what makes an assessment defensible.

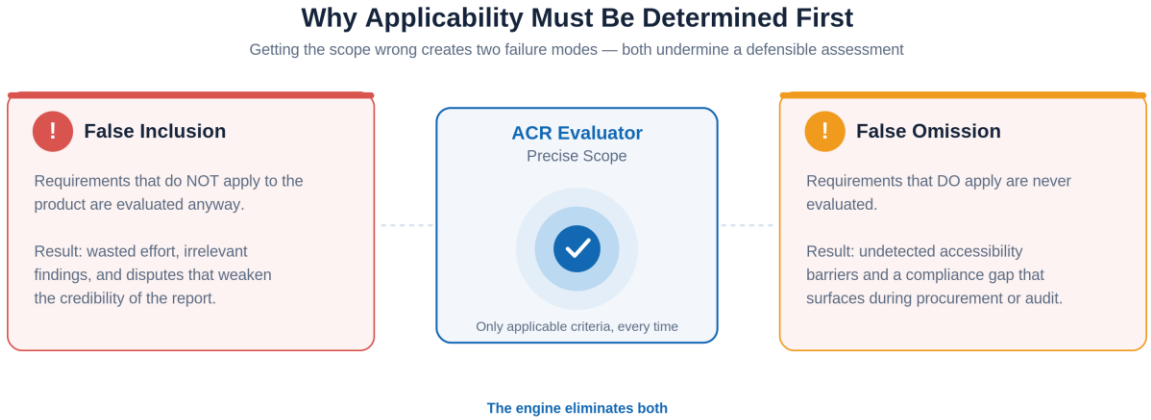

Figure 2 — Determining scope first eliminates both false inclusion and false omission.

Multi-Dimensional ICT Classification Framework

Rather than treating ICT as a single category, the ACR Evaluator profiles each product across two complementary dimensions. ICT Types capture broad technology categories — Hardware, Software, Web Content, Electronic Content, Telecommunications, Multimedia, Mobile Applications, and Support Services & Documentation. ICT Subtypes add functional detail such as User Interface Hardware, Audio-Visual Output, SaaS/Cloud-Based Applications, Mobile Applications, Video Conferencing, VoIP Systems, Collaboration Platforms, Authoring Tools, and Knowledge Base/Help Systems.

Selecting one or more Types and Subtypes produces a structured ICT profile. That profile — not a single label — is what the engine evaluates against the crosswalk, enabling it to consistently identify the standards, technical requirements, and evaluation criteria that apply to the product under review.

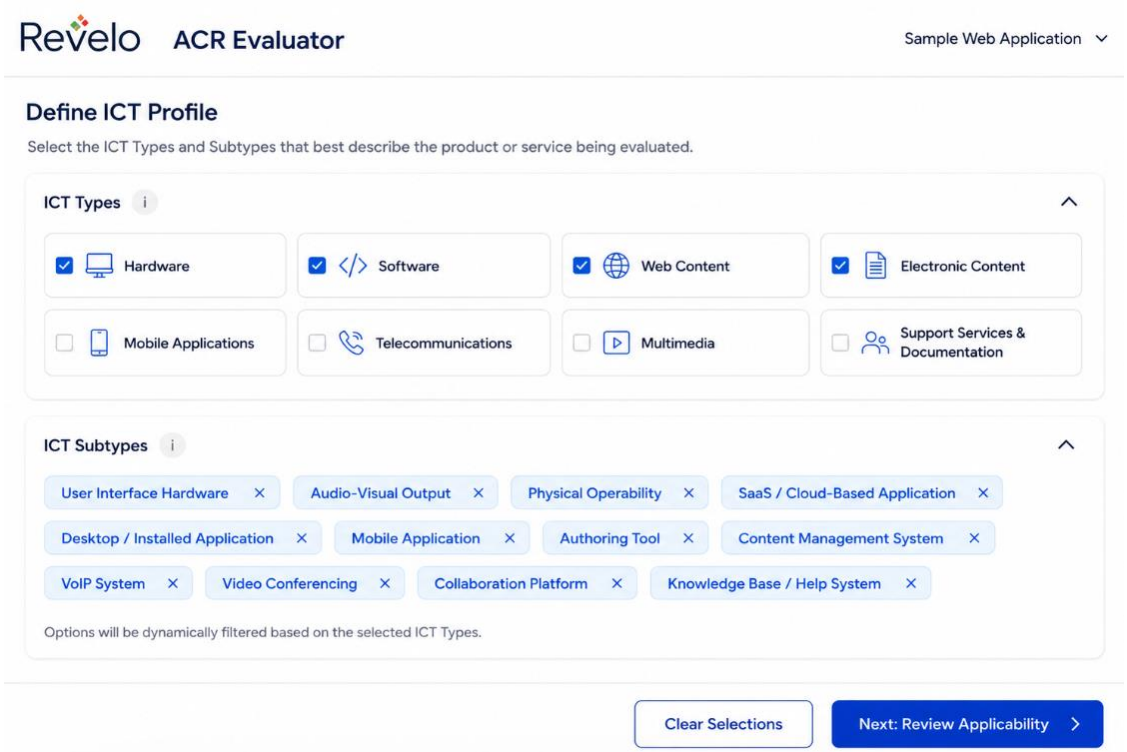

Figure 3 — The ICT Profile configuration interface. Users select the Types and Subtypes that represent the product; the engine processes the selection to determine applicable requirements.

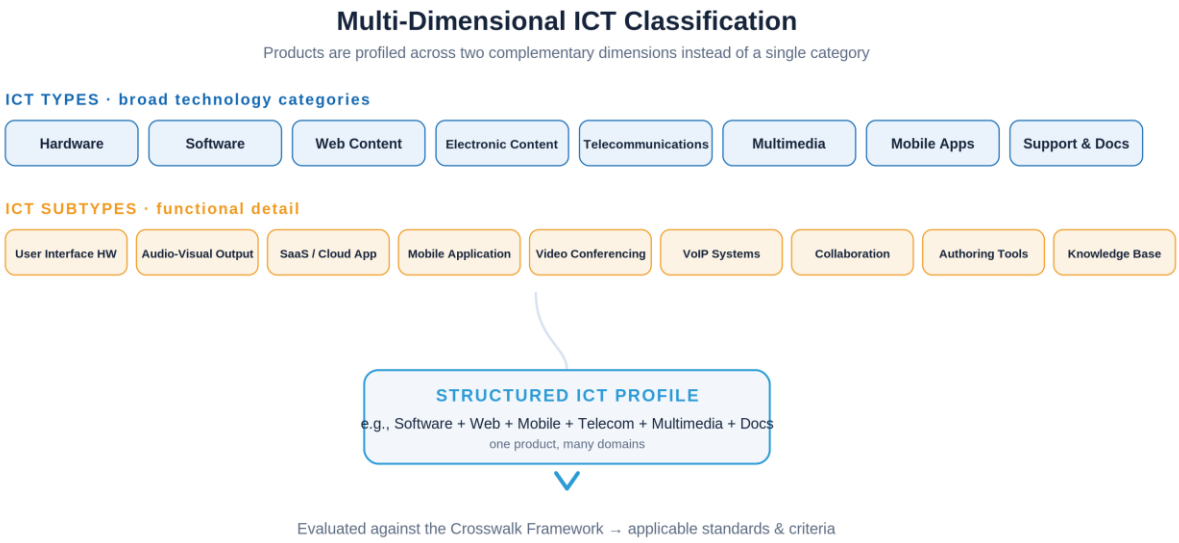

Figure 4 — Two dimensions combine into a single ICT profile that spans many domains at once.

Platforms such as Microsoft Teams, Zoom, Google Workspace, and Cisco Webex routinely span software, web, mobile, telecommunications, video conferencing, and support documentation. Multi-dimensional classification lets the ACR Evaluator include every applicable requirement for such products while excluding criteria that do not apply.

ICT Classification-to-Criteria Crosswalk Framework

The crosswalk framework is the authoritative mapping repository the applicability engine draws on. It establishes the relationships between ICT Types, ICT Subtypes, accessibility standards, regulatory requirements, evaluation criteria, and test methods.

Because applicability is derived from these relationships rather than a static checklist, the engine can determine the requirements for any ICT profile dynamically — and every determination remains traceable to the source standard and criterion it came from. This is what allows consistency to improve without sacrificing transparency.

Rules-Based Applicability Engine

The rules-based applicability engine is the core component that determines which requirements apply to a specific product. Processing begins at the ICT Classification Layer, where the selected Types and Subtypes are identified. Those classifications are evaluated against a centralized Standards Repository and the crosswalk framework, which together hold the relationships between ICT characteristics and accessibility requirements.

The Decision Engine then applies the Applicability Engine Specifications to the profile and resolves the complete set of applicable standards, technical requirements, and evaluation criteria. The resulting Evaluation Scope is consistent, traceable, and defensible — applicable requirements are included while non-applicable criteria are excluded.

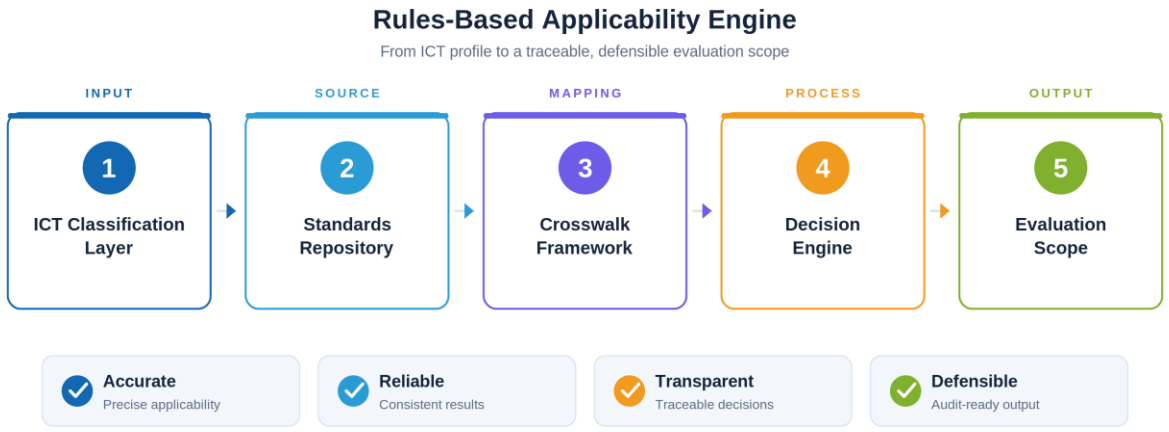

Figure 5 — The engine pipeline, from ICT classification input to a defensible evaluation scope.

Worked Example: A Video Conferencing Platform

A short walkthrough shows how the method behaves in practice. Consider a Zoom-class video conferencing platform delivered through web, desktop, and mobile clients, with dial-in telephony and recorded, captioned sessions. In the ICT Profile the evaluator selects the Types and Subtypes that describe the product — Software, Web Content, Mobile Applications,

Telecommunications, Multimedia, and Support & Documentation, together with the SaaS/Cloud, Video Conferencing, and VoIP/RTT subtypes.

The engine resolves that profile to a precise evaluation scope. WCAG 2.2 Level A and AA apply across the web, software, and mobile interfaces; Section 508 software provisions (§501–504) and electronic documentation provisions (§602) apply; Section 255 applies to the real-time voice, video, and text telecommunications functions; and EN 301 549 supplies the harmonized EU and international scope. Just as importantly, the engine excludes provisions that do not apply — for example, closed-functionality and hardware operable-part requirements (§402, §407) and audio-visual hardware display provisions (§410), because this is a software product rather than a dedicated hardware appliance or kiosk.

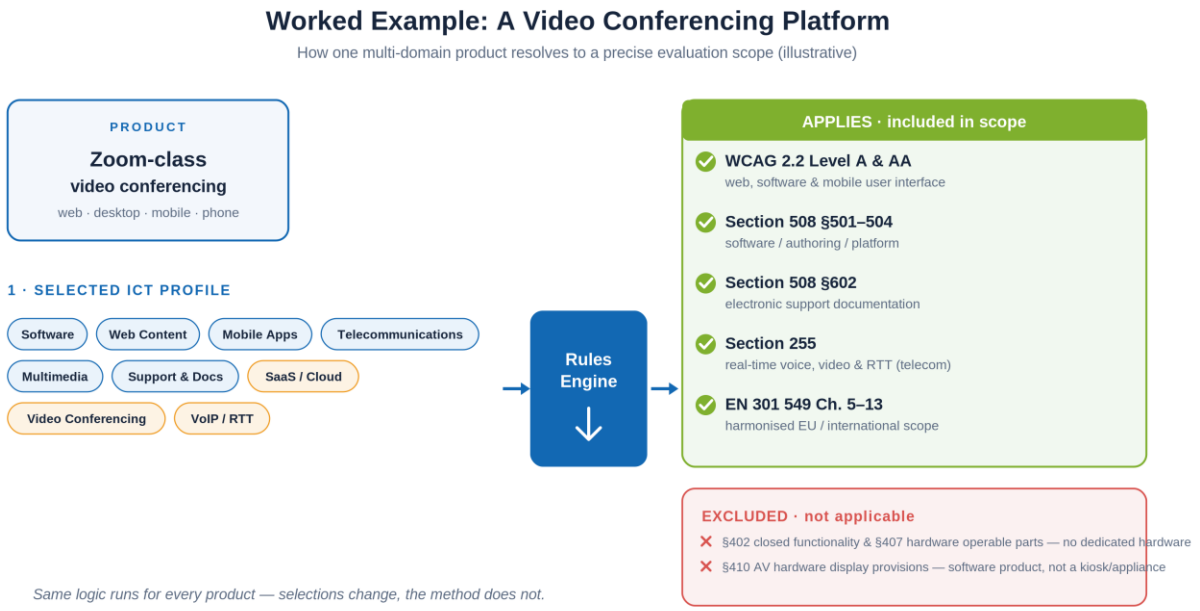

Figure 6 — One multi-domain product resolving to an included scope and an explicitly excluded set. Standards shown are illustrative of the determination, not a complete criterion list.

The value is not the specific list but the discipline behind it: the same logic runs for every product. The selections change; the method, and the traceability from each decision back to its source standard, do not.

Handling Conditional and Edge-Case Applicability

Real products rarely produce clean yes/no answers. When two selected subtypes disagree about whether a requirement applies, the engine resolves scope with an “any-Y wins” union: if any selected subtype makes a requirement applicable, it is included. Requirements marked conditional default to applicable and are flagged for the evaluator to confirm, so a borderline case is never silently dropped.

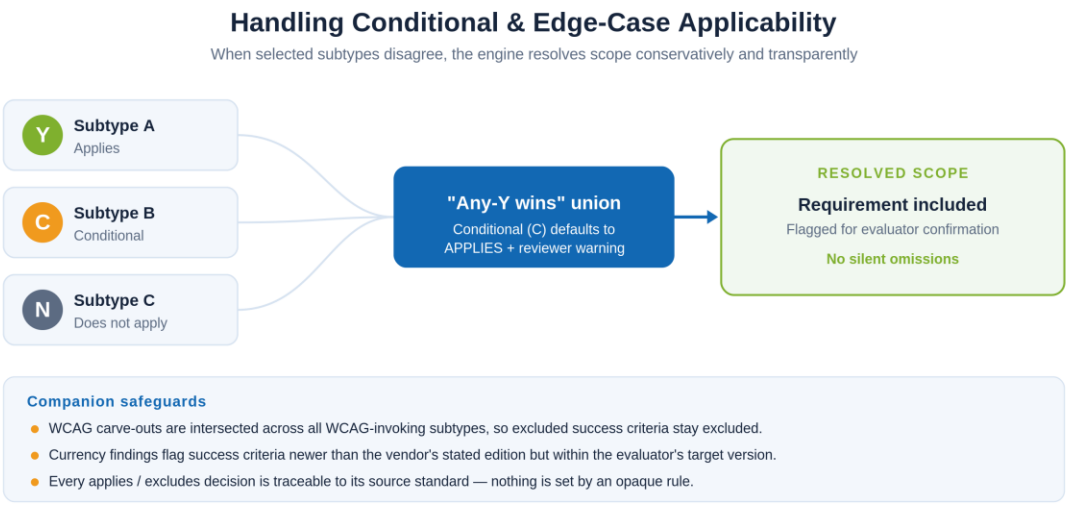

Figure 7 — Conservative resolution of conditional applicability, with safeguards that keep scope both complete and traceable.

Three safeguards keep this conservatism from over-including. WCAG carve-outs are intersected across every WCAG-invoking subtype, so success criteria that a standard explicitly excludes stay excluded. Currency findings flag success criteria that are newer than the vendor's stated edition but still within the evaluator's target version, surfacing version drift instead of hiding it. And every applies/excludes decision remains traceable to its source standard — nothing is determined by an opaque rule.

It is worth being precise about the boundary of automation. The engine determines applicability — which criteria are in scope — not conformance. Whether a product passes each applicable criterion remains the work of a qualified evaluator using the test methods the framework supplies. Ambiguous classifications are flagged for human confirmation rather than guessed, which is what keeps the automated scope defensible.

Accessibility Evaluation Framework

Once applicability is established, the Accessibility Evaluation Framework provides the structure for conducting the assessment. Each applicable criterion carries a consistent, testable anatomy.

Figure 8 — The consistent structure carried by every applicable evaluation criterion.

By separating applicability determination from assessment execution, the ACR Evaluator makes evaluations repeatable and comparable: the same product profile yields the same scope, and the same scope is tested the same way every time.

Conclusion

The increasing complexity of modern ICT makes accurate applicability determination the decisive step in any accessibility assessment. By resolving the ICT profile against an authoritative crosswalk and an explicit rule set, the ACR Evaluator produces an evaluation scope that is consistent across reviewers, transparent in how it was derived, and traceable to its source standards.

That foundation is what makes the resulting assessments suitable for procurement, compliance, and risk-management decisions. Because scope is determined automatically yet remains fully reviewable — including its conditional decisions and version-currency flags — vendors and third-party reviewers can see exactly why each criterion was selected, and trust the result that follows.

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Appendix — Publishing Metadata

For the web/marketing team. Remove this appendix before printing or distributing the paper.

SEO

Title: Automated Framework for ICT Accessibility Requirements

Meta description: Learn how the ACR Evaluator automatically determines applicable Section 508, WCAG, and ICT accessibility requirements using a rules-based applicability engine.

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Primary keywords

ICT accessibility requirements · Section 508 compliance · accessibility applicability determination · accessibility requirements mapping · VPAT evaluation · ACR evaluation · ICT accessibility assessment · automated accessibility compliance · accessibility standards mapping · WCAG applicability

Secondary keywords

accessibility conformance report · VPAT review · accessibility evaluation framework · Section 255 accessibility · ICT classification · accessibility criteria selection · accessibility testing methods · accessibility procurement · accessibility risk assessment · ICT accessibility standards