

DITA Information Types Aren't Templates

They Map Content to How the Human Brain Works



A cognitive model for structured content that improves clarity, usability, and AI outcomes



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DITA information types are often treated as simple templates—containers for formatted content. But information types were never meant to be formatting devices. They are semantic signals that align content with how people think, learn, and act. When used correctly, they reduce cognitive friction, improve reuse, and significantly enhance AI retrieval and response quality. This article explains why concept, task, and reference map to distinct cognitive functions—and why thoughtfully adding types such as Principle and Process can improve clarity without creating taxonomy chaos.

Walk into almost any structured content program and you'll hear it:

“We just need a concept template, a task template, and a reference template.”

It sounds reasonable. DITA provides concept, task, and reference as familiar topic types. Tools generate starter files. Style guides define headings. Everyone gets to work.

But information types were never meant to be templates.

Templates prescribe structure. **Types define purpose.** An information type signals what question the content answers, what cognitive work it supports, and how the reader is expected to use it. Choosing a type is making a promise.

Semantics first, structure second

DITA began as an architecture for modular, reusable content. From the beginning, typed topics were central—not because formatting matters, but because meaning does.

Each core type encodes a distinct reader question:

- **Concept:** What is this? How should I understand it?
- **Task:** How do I do this?
- **Reference:** What are the facts or specifications?

These are not arbitrary buckets. They align with how people process information. Concept supports understanding. Task supports performance. Reference supports retrieval.

When we blur those boundaries, content becomes harder to use. Procedures swell with background explanation. Reference topics hide mini-tutorials. Concepts drift into policy or instructions. Formatting may be consistent, but purpose becomes unclear. That lack of clarity creates friction—for readers and for machines.

Information typing and human cognition

Cognitive research distinguishes between two foundational kinds of knowledge:

- **Declarative knowledge** (“knowing that”)
- **Procedural knowledge** (“knowing how”)

Concept topics primarily support declarative knowledge. Task topics support procedural performance. Reference topics support rapid recall and comparison.

Consider onboarding to a collaboration platform. A new user needs to understand what a workspace or channel is (concept). They need steps to join and configure notifications (task). They need system requirements and keyboard shortcuts (reference).

Mix those together, and everyone works harder than necessary.

Information typing, done well, aligns content with the cognitive mode the user is in. That alignment reduces mental switching costs and increases task success.

Why this matters more in the age of AI

As content flows through search engines, chatbots, and retrieval-augmented generation (RAG), semantic clarity becomes operationally critical.

Well-typed content improves:

- Retrieval precision (procedures returned for “How do I...?” questions)
- Answer structure (steps remain steps)
- Chunking and citation accuracy
- Automated classification

Information typing is no longer just a human-centered writing practice. It’s an AI-enabling discipline.

When three types aren’t enough

Concept, task, and reference cover foundational cognitive needs. But many documentation ecosystems repeatedly encounter two grey areas:

1. **Judgment and guidance** — rules about when and why to act
2. **System behavior over time** — how something works behind the scenes

When these are forced into concept or task, confusion follows.

Principle: Structured judgment

A **Principle** topic captures rules, constraints, and decision criteria.

For example: When should you @mention an entire team? That question isn't about steps. It's about judgment.

A Principle topic might include

- a clear rule
- rationale
- conditions and exceptions
- consequences, and
- examples.

This transforms scattered warnings into reusable, consistent guidance.

Process: Structured system behavior

A **Process** topic explains what happens over time: stages, triggers, transitions.

For example: How do notifications behave across devices? That's not a user procedure. It's system logic.

A Process type separates user action from system behavior, improving troubleshooting and comprehension.

Avoiding type sprawl

DITA's extensibility doesn't mean types should multiply freely. A new type is justified only if it

- answers a distinct reader question
- supports a distinct cognitive function
- requires a distinct structural pattern, or
- improves retrieval, reuse, or processing.

If those conditions aren't met, you likely need metadata—not a new type.

Information types as functions

Our brains work according to defined functions that aid in comprehension and application of information. We often conflate terms such as explain, describe, and define. In fact, when we put each into a sentence, it becomes clearer that each has a very narrow application.

For example, think about your next-door neighbor. Now *describe* your next-door neighbor. And *define* your next-door neighbor. Lastly, *explain* your next-door neighbor.

You *describe* your next-door neighbor using **reference functions**: “My neighbor is a 56-year old, follicly-challenged male.” [subject HAS properties]

You *define* your next-door neighbor using **concept functions**: “My next-door neighbor is the person or persons living in the house next to mine.” [subject IS class]

You might *explain* your next-door neighbor using **process functions**: “My next-door neighbor brings the bean salad to the block party every year.” [subject DOES action]

Rounding out the functions are task and principle. The **task function** *instructs* you on how to do a thing; whereas the **principle function** *advises* you on what to do or not do and when. For example, “never knock on my neighbor’s door at night as his dog may attack.”

While our brains perform many other functions with other types of information, these specific functions translate into **intents**. We use these five intents to understand the world around us. GenAI easily recognizes **intents** as patterns they can more readily construct from.

Information typing is a design discipline

Information types are semantic contracts. When you label something a Task, you promise executable steps. When you label it Reference, you promise quick retrieval. When you label it Principle or Process, you promise judgment or system behavior.

When those promises hold, content scales. Reuse stabilizes. AI retrieval improves. Readers find what they need faster.

When they don’t, structure becomes cosmetic.

DITA information types were never just templates. They are tools for mapping content to human cognition—and increasingly, to machine interpretation as well.

Used intentionally, they don’t just organize content. They make it work.

About the Authors



Rob Hanna is CEO and Co-Founder of Precision Content and a leading expert in structured authoring, DITA, and information architecture. With over 30 years of experience, he has helped global organizations transform complex content into clear, usable, and scalable knowledge. Rob has worked extensively with enterprise teams to implement structured content models, taxonomies, and CCMS solutions that improve performance and enable AI-ready content. He is also an educator and industry speaker, known for advancing the role of information typing and cognitive alignment in modern technical communication.



Dr. Lance Cummings is a Professor of Professional Writing at the University of North Carolina Wilmington and a leading voice at the intersection of rhetoric, structured content, and AI. His research explores how information design and rhetorical principles can improve the performance of generative AI and modern content operations. Lance bridges academic rigor with real-world application, helping organizations understand how content structure, meaning, and workflow impact both human understanding and machine intelligence. He is also the author of *Cyborgs Writing*, where he shares insights on AI, writing, and the future of content.

About Precision Content

Your content is already shaping AI decisions. Do you trust it?

Precision Content specializes in designing structured content systems that align with how people think, learn, and act. We help organizations move beyond templates and formatting to create content that is semantically clear, cognitively aligned, and built for performance.

Our work focuses on information typing as a design discipline—ensuring that content consistently answers the right questions, supports the right cognitive functions, and can be reliably used by both humans and AI systems.

By transforming legacy documentation into structured, reusable knowledge, we help organizations reduce cognitive friction, improve task success, and establish a trusted foundation for scalable content operations.

We've partnered with organizations including Cisco, Mastercard, Gulfstream, and the Mayo Clinic to turn fragmented content into systems that support real understanding and reliable execution.

Structure without meaning is cosmetic. Meaning aligned to cognition is what makes content work.

Next steps:

Book your AI-Ready Clarity Check™ Assessment

If this paper resonated, the next step is simple. See how your content actually performs.

We analyze how your content is structured, how clearly it aligns to intent, and where it breaks down for people and AI. You'll see where meaning is lost, where cognitive friction exists, and how that impacts usability, trust, and AI outcomes.

Book Your Free AI-Ready Clarity Check™

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