



10-Step / 4-Phase
Phase 2 and Steps 6,7 & 8
Creating the Knowledge Management
System Blueprint

Developing the Knowledge Management
System

KMT-10 - 12



Creating the KM System Blueprint

- Develop the KM Architecture
- Understand and select architectural components
- Design for interoperability, performance, scalability, user interfaces
- Repository life-cycle management
- Build-or-buy decisionS and tradeoffS
- Future-proof the KM System ????



For Sustainable Competitive Advantage

- Systems that create, locate, capture, share K and bring that K to bear on new problems and opportunities in timely manner
- Real world – fragmented K; extremely difficult to find or share; contains inconsistent, redundant and disused K
- Whither the “stable” blueprint of KM

Lost Opportunities and KM Systems

- Traps to avoid: trying to explicate K that is not explicable; failing to explicate K that should be converted from tK to eK. ???
- Constraints of time and money – kinks
- KM system serves as an enabler for K sharing and links people, processes, culture and values



Knowledge Management Architecture (KMA)

- IT as an enabler for sharing, application, validation, distribution of K
- Challenge – which K should be made eK and which best left as it is tK???
- Rich media and rich communications ???
- KMA Components: Repositories, Collaborative platforms, Networks, Culture

The Knowledge Repository

- Information repository vs. K repository
 - Issues of content, context, and community
- Distributed content repositories – linked into an **integrated repository**
- Content provides the context – missing element ??? – **most important**



The Knowledge Repository

- Declarative K
 - Significant and meaningful concepts, categories, definitions, assumptions
- Procedural K
 - Processes, sequences of events and activities, actions
- Causal K
 - Rationale for decisions made or rejected or not made, eventual outcomes, and associated informal pieces (post-hoc analysis)
- Contextual K (very important)
 - Circumstances, assumptions, results of assumptions, informal stuff – video clips, annotations, notes, **conversations**

The Knowledge Repository

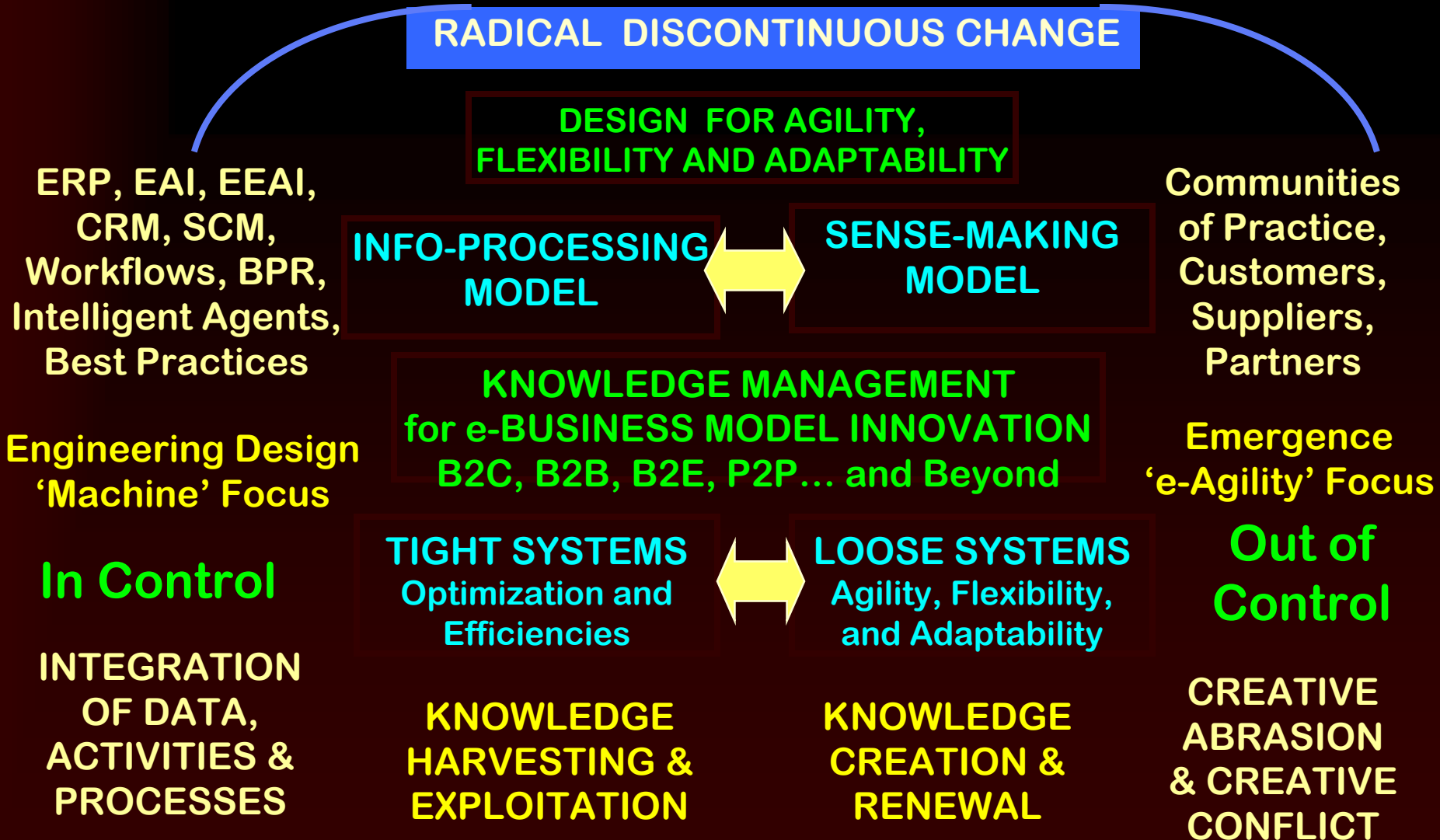
- Transparency of backend databases and data warehouses, versioning control, authoring controls, date controls
- What is **valid** vs. what is **invalid**?
- **‘Old news’ versus ‘Hot Insights’**
- Conversation with a Publisher – who is **‘time shifting’ content – “timeliness, validity, truth value”**



Integrative - Interactive Repositories

- Integrative repositories – Interactive Repositories
- top-down control – more loosening of control – more difficult to retain the structure
- E.g. AA Knowledgespace – 3,000 repositories of Lotus Notes databases – conversation with a consultant in Latin A.
- Managing content – addition, renewal, deletion, validation, versioning
 - Who does it?
 - How it will be done?
 - How frequently it will be done?

Managing Knowledge for e-Enterprise Performance





Content Centers

- Functional
- Business Intelligence
 - Who says what about whom
- Public, Trade and professional organizations, Investors and government agencies
- Knowledge Aggregation and Mining

Relating Information, Knowledge and Performance



Problems with “hits” in databases

How to get “meaningful” information that can facilitate “action”?

Role of computers, humans and agents?

More on Repositories

- Knowledge aggregation and mining
- Pattern recognition, agent-based retrieval, and thesaurii
- What is “KM Consulting” ????
- Who should have ultimate choice of:
 - What is served as valid K?
 - How it is served?
 - How often it is served?

More on Repositories

- Skill Databases to K Directories
- Automated Categorization e.g. Autonomy
- Personalized Content and Push Delivery
- Use of Profiles or ‘snoop’ technology
- Amazon.com???



Collaborative Platform

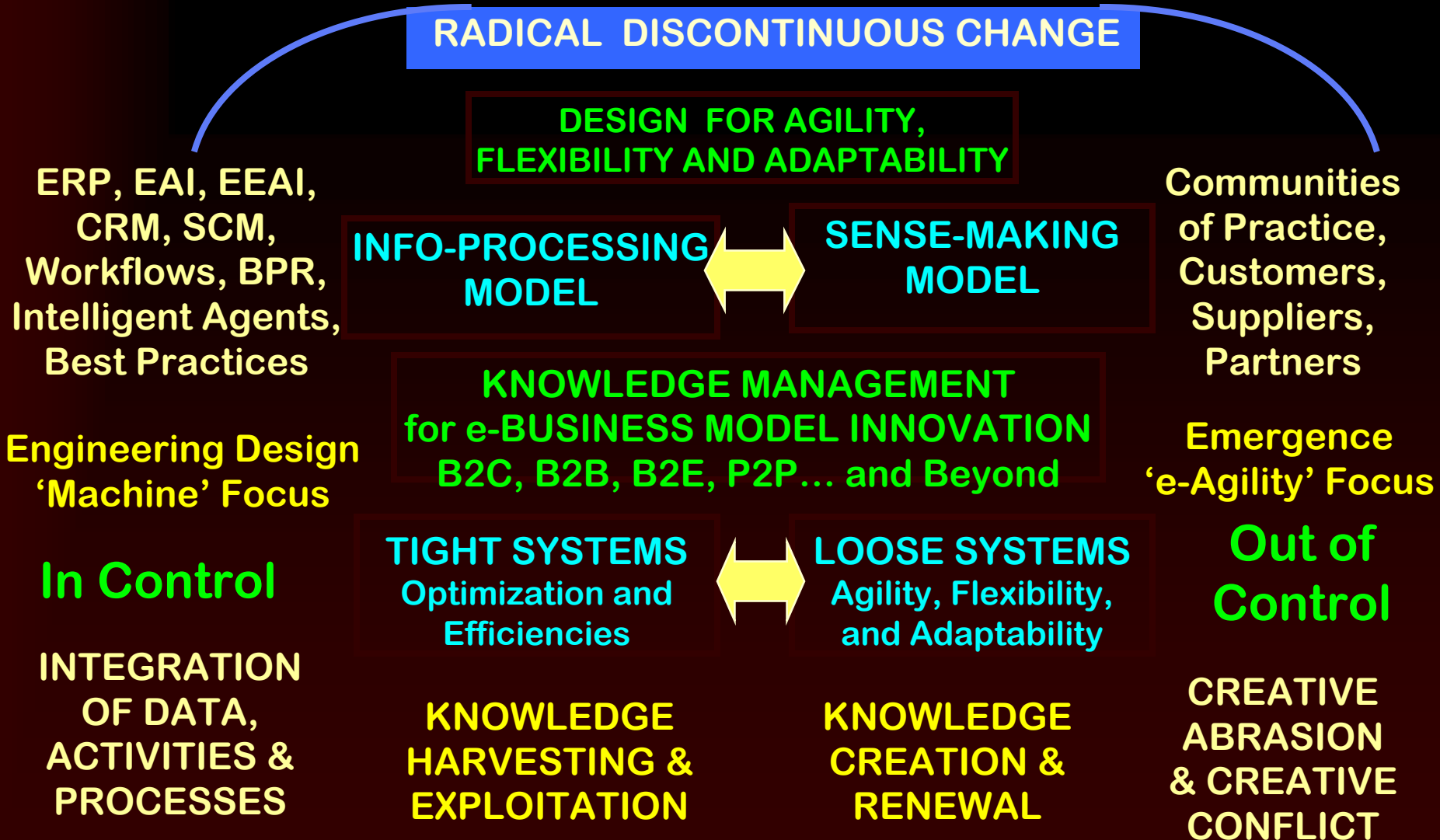
- Collaborative filtering
 - Active versus Automated, combination
- Community Centered filtering
 - Epinions.com
 - Comparing car seats and cars on epinions
- Meta Knowledge – K about K
- Multiple degrees of context – “loose” interpretations of information
 - How IT can help
 - Technology Choices



Integrative and Interactive K Apps

- Integrative view and interactive view should operate simultaneously
- Explicated content vs. Explicitly Captured Content
- Integrative App Support – for evaluation, interpretation, and adapting K
- Top-Down vs. Bottom-Up, **Prosumers** of K, contrast with e-publishing

Managing Knowledge for e-Enterprise Performance





**Customer Driven
Virtual Communities**

**Supplier Coopetition
in Business
Ecosystems**

**Human Capital
as Key Enabler**

FROM COMPLIANCE TO COMMITMENT

**External Controls
for Compliance**

**Self Controls for
Commitment**

**Stable and
Predictable
Business
Environment**

**Trust, Vision,
Motivation,
Leadership,
Empathy**

**Knowledge
Utilization**

**KNOWLEDGE
PROCESS**

**Knowledge
Creation**

**Goals,
Rewards,
Penalties,
Carrots, Sticks**

**'Wicked'
Business
Environment**

[Click on this hyperlink for Article on Knowledge Ecology](#)

Interaction Complexity for K Apps

- As interaction complexity rises, biggest challenge is making the interactive KM components of system more social, cognitive, and behavioral and less technical in focus



More Stuff

- Build or Buy – No one answer
- Interoperability – Integration – Big issue
- Performance and Scalability
- User Interface Considerations
 - See useit.com
- Network View of KM
- Future Proofing of KM Systems
- On RDF, KQML and PICS ???



Developing the KM System

- Channels for tK and eK
- tK – Information – tK
- Contextual Expression at the Interface
- Browser as standard with TCL/tk and KQML wrappers.
- Platform Independence
- [Un]learning from intranets ???

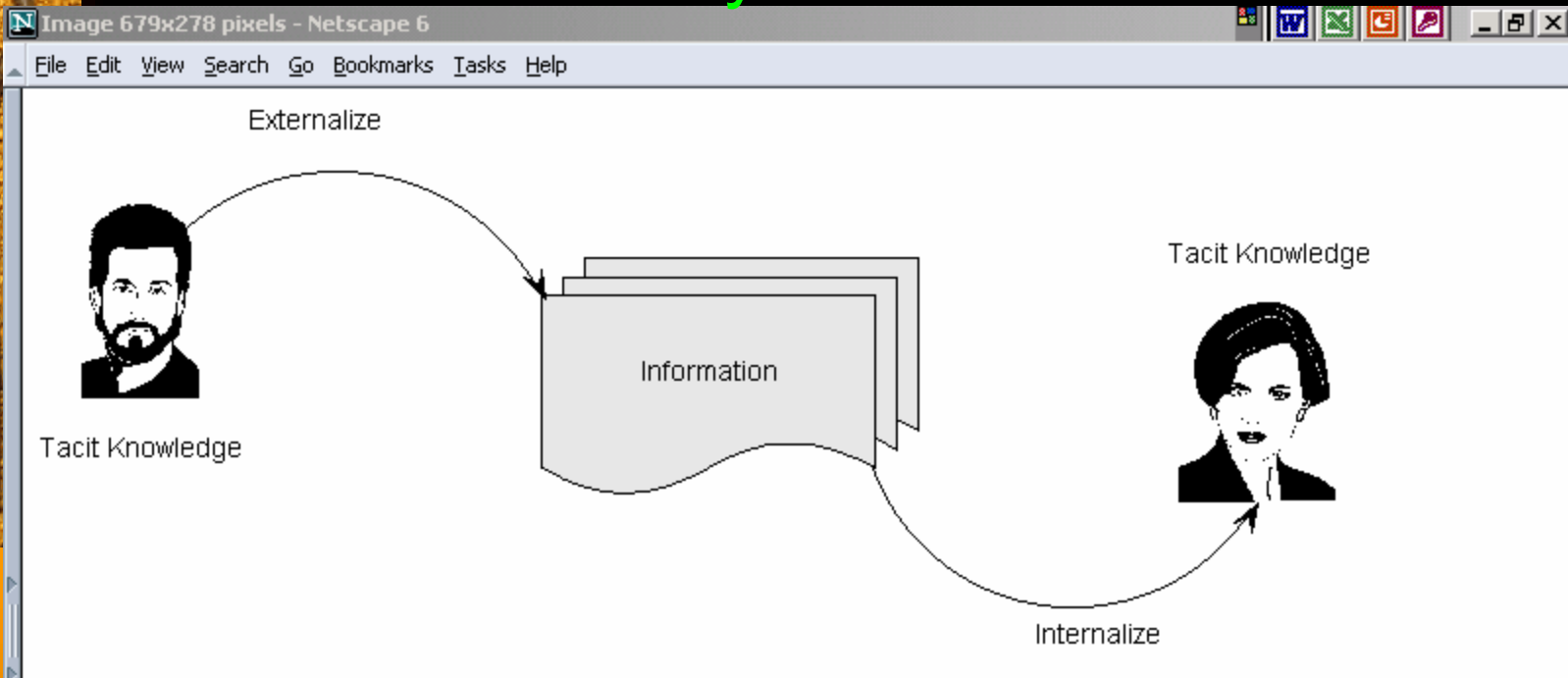
Fallacy of KMT

- “Of the many possible choices, leveraging the existing intranet is the most feasible and effective approach...”
- An outdated and obsolete conception...

Fallacy of KMT

- “The top [interface] layer moves information in and out of the KM system. When this information is relevant, timely, and actionable, it represents knowledge...”
- An outdated and obsolete conception... Unless the user finds the information to be relevant, timely, and actionable and acts upon it... information is just what it is and nothing more... information!!

Fallacy of KMT



“Technology is not a precursor to knowledge but an enabler in situations that do not allow for face-to-face transfer of knowledge.”

Only with great caution must one emphasize the importance of the message or the medium over that of the transmitter and the receiver when talking of tacit K.

Fallacy of KMT

- “News must have a surprise effect: the surprise effect of messages, news, etc., will be greater the less probable they are. The information is greater the less probable it is. In this sense, information is 'improbability.' The information of a signal is the measure for the improbability with which this signal occurs in a certain communication. The uncertainty is always largest when all signals appear with the same probability.”

Fallacy of KMT

- “The process of receiving and of using information is the process of our adjusting to the contingencies of the outer environment, and of our living effectively within the environment... That is, the more probable the message, the less information it gives. Cliches, for example, are less illuminating than great poems... If, however, the information which proceeds backward from the performance is able to change the general method and pattern of performance, we have a process which may be called learning...”



Developing the KM System

- Document Management through Interface layer
- DMA standards and WebDAV standards
- Customizability and Versioning Controls
- Virtual Private networks
- Biometrics and other security issues



Collaborative Filtering and Intelligence Layer

Tags and Meta Tags – RDF tags

Static to Dynamic Structures – Data finds you;
Search finds you – contrast with traditional
hyperlinks and 404s

Automatic Full Text Indexing

See searchenginewatch.com

Automatic Meta Tagging - how automatic ???

From Client/Server to Agent Computing

Mobile Agents and Push and Pull

Bottom Line

“The biggest mistake that companies often make is that they assume that the intrinsic value of an innovation such as a knowledge management system will lead to its enthusiastic adoption and use.”



Prototyping and Deployment

- Rejection Insurance – Experiences ???
- “Chunks” versus “Wholes”
- Need for pilot KM deployment
- Select right **nontrivial** and **representative** pilot project ??? (No lifeblood projects)
- Identify and isolate failure points ???
- KM System Life Cycle ???
- Avoid traps in RDI to maximize returns ???



Deployment of KM Systems

- Prototyping and Pilot Deployments
- Issues of Goal Congruence ???
- Motivating KM through “exchange” ???
- Beyond data warehouses and data marts
- RID – Adapted Waterfall Model – loops ???
- Big Bang Approach to Deployment ???

KM Development Methodologies

- Waterfall Methodology
- Information Packaging Methodology
 - Softer factors affecting system processes
- Big Bang Approach
 - Web Services, ASP
- Results Driven Incrementalism
 - Business Release



RDI Methodology and Business Releases

- Results driven incrementalism –
Measurable results
- Logistics of “Doing” – Theory vs Practice
- Business Releases and Software Releases ??
- Good Idea, need better pragmatics
- Dividing Business and Technology Releases

RDI Methodology

- Steps Involved
- Traps in Selecting Business Releases
- Process Divisibility
- Human Barriers



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THE REAL STORY BEHIND RDI

AN INCREMENTAL PROCESS FOR SOFTWARE IMPLEMENTATION

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