# Top Trends in Technical Content Delivery Systems in 2021

# 2021 年技术内容交付系统的热门趋势

中国技术传播联盟
China Technical Communication Alliance

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# Introduction
# 自我介绍


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WeChat: brianbuehling
LinkedIn: /in/buehling

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Adaptive Content. On Demand.
适应性内容，按需提供


达科塔系统软件(上海)有限公司
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@daksys
/company/dakota-systems-inc
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# Professional Background 专业背景

**Washington University St. Louis - Systems Science & Mathematics**
华盛顿大学 圣路易斯分校 系统科学与数学理学 硕士

**Software developer for Facts Comparisons (Wolter Kluwer Health)**
威科集团软件工程师

**Enterprise IT roles with John Deere and Ameritech (AT&T)**
约翰迪尔以及AT&T 等公司企业 IT 管理层

**University of Chicago - MBA Finance**
芝加哥大学金融与策略 专业 MBA

**Ohio University - Adjunct Graduate Lecturer**
俄亥俄大学研究生院 访问讲师

**Founded Dakota Systems**
创建达科塔系统软件公司

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# Dakota

**Dakota Systems is a software company specializing in technical communication solutions.**

**Since 1999 we've been a trusted partner for globally recognized engineering-driven and content-rich brands.**

**Our software and services help engineers, scientists and technical communicators improve the quality, speed and business impact of their digital communications.**

达科塔系统软件公司是一个专注于技术传播解决方案的软件技术公司。
自 1999 年起，作为值得信赖的合作伙伴，我们一直为众多全球著名工程及信息出版领域业界领先品牌提供服务。我们的顾问团队以及开发人员，竭诚协助各类数字市场营销人员、工程师、科学家以及技术通讯专家，在数字信息通信领域，帮助他们提高效率、加快速度并强化其业务影响力。

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SPACEX
Johnson Controls
TESLA
UNITED
NOKIA
MOTOROLA
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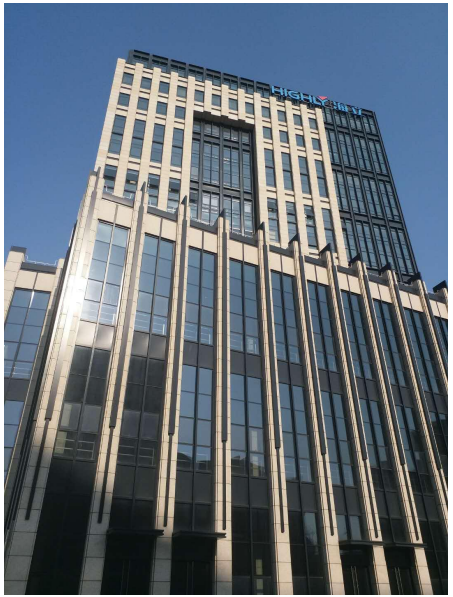

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# Session Agenda 演讲议程

- Introduction 引言
- Discussion on Research and Analysis 讨论相关研究和分析结果
- Current State of Technical Content Delivery 技术内容交付系统现状
- Projections for 2021 Trends 预测 2021 趋势
- Closing Thoughts 结束语

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# Survey Approach: Methodology
# 调查问卷方式：方法

- Respondents were identified as 2020 customers or Facebook, Apple, Amazon, Netflix, Google, Tencent
- Roles were restricted to technical writer or documentation manager
- Conversations were initiated via email or LinkedIn messages
- Questions were limited to information publicly available:
  - Public statements and presentations on moving AWS documentation to github
  - Presentations given at industry conferences
  - Information listed in job listings and/or resumes
  - Social media
- Questions were posed through a conversational process using phone, email and messaging

- 受访者被标识为：2020 客户、或者 Facebook、苹果、亚马逊、Netflix、谷歌、腾讯
- 其角色限定为技术写作人员和文档经理
- 交流通过电子邮件或领英消息
- 问卷内容限于可公开获取的信息
  - 有关将 AWS 文档移到 Github 的公开声明和演讲；在业界会议上的演讲
  - 招聘广告以及/或者个人简历；社交媒体
- 通过电话、电子邮件以及文字消息等交流方式提出问题


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# Content Analysis Approach: Methodology
# 内容分析方式：方法

- 20 of the largest AWS user guides were downloaded from github in Markdown for analysis
- We developed a Markdown to Docbook conversion process for structural context using pando
- The resulting XML was loaded into a database for analysis
- XQuery and our internal visualization tools were applied for content analysis

- 从 github 下载了20个最大的 Markdown 格式的 AWS 用户指南用于分析
- 我们使用 pandoc 针对结构化语境，开发了将 Markdown 转换成 Docbook 格式的程序
- 将得到的 XML 上载到数据库用于分析
- 在内容分析过程中应用了 XQuery 及自行开发的内部可视化工具


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# Fundamental Question
# 基础问题

**What is the current state of technical communications at the end of 2020?**

2020 年末，技术传播的现状如何？



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# Pathway to Dynamic Content Delivery

**WYSIWYG Publishing**

**Modular Design**

- Modular design
- Topic oriented structure
- Enforced by writing guides and templates

**Automatic Formatting**

- Real time web updates
- Automated formatting through plugins, macros and scripts
- Optimized design for aesthetics and usability

**Custom Publishing**

- Publish capabilities for custom versions and different audiences
- Support of publishing to multiple formats simultaneously
- Integrated with XML content model

**Component Content Management**

- Publish reusable content component instead of documents
- Modified workflow to support component review
- First time CCMS is needed.

**Dynamic Content Delivery**

- Allows external users or systems to build custom outputs

**Single Source Publishing**

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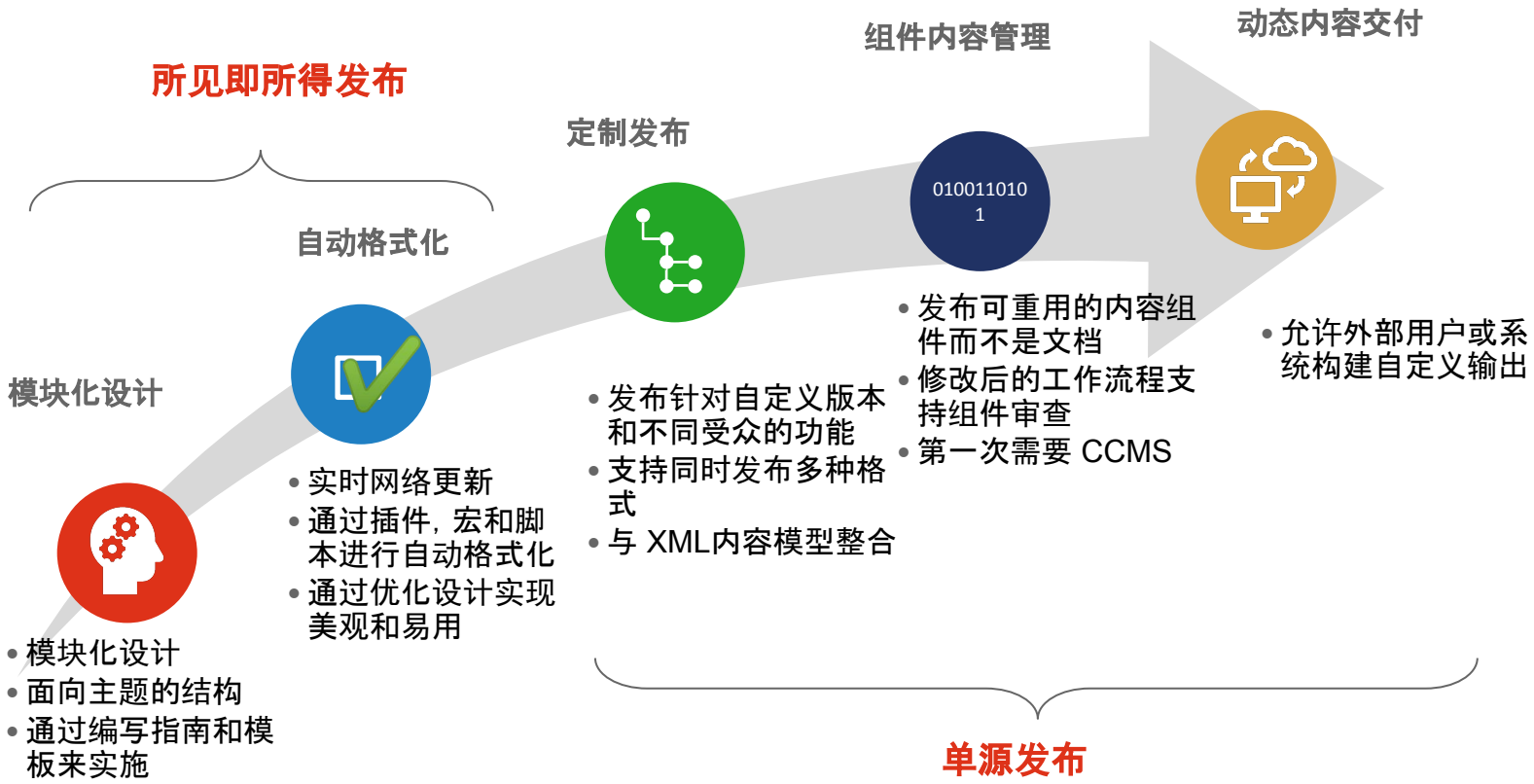
# 动态内容交付的途径

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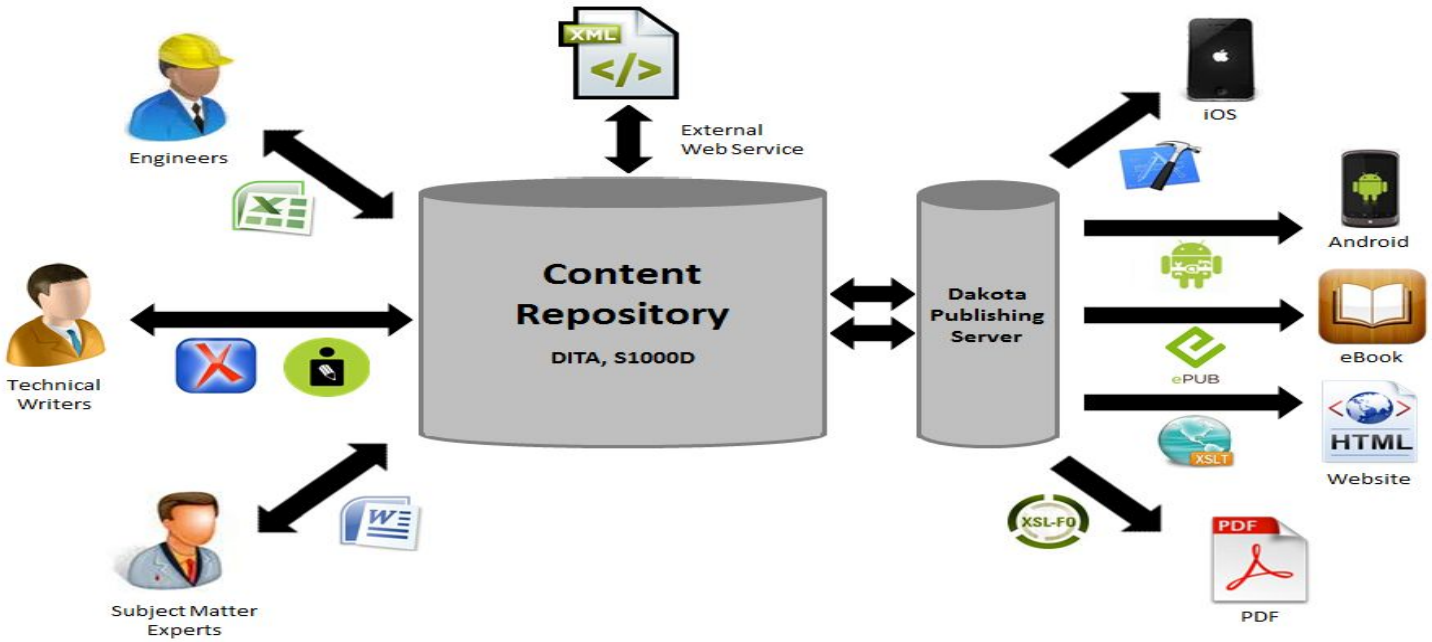
# 2014 - 2019 Best Practice: Convergence to Single Source Publishing

## 2014-2019 最佳实践:融合到单源发布



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# 2014 - 2019 Best Practice: Convergence to Single Source Publishing

## 2014-2019 最佳实践：融合到单源发布

- **Editing and storing documentation in XML format** 使用 XML 格式编辑和存储文档
- **Use of content templates to standardize documents** 使用内容模板使文档标准化
- **Topic reuse across formats and documents** 跨格式和文档重用主题
- **Automatic publishing to HTML with XSLT** 使用 XSLT 自动发布 HTML
- **Automatic publishing to PDF with with XSL-FO** 使用 XSL-FO 自动发布 PDF
- **Use of oXygen for XML editing** 使用 oXygen 进行 XML 编辑
- **User of Apache FOP for PDF publishing** 使用 Apache FOP 进行 PDF 发布



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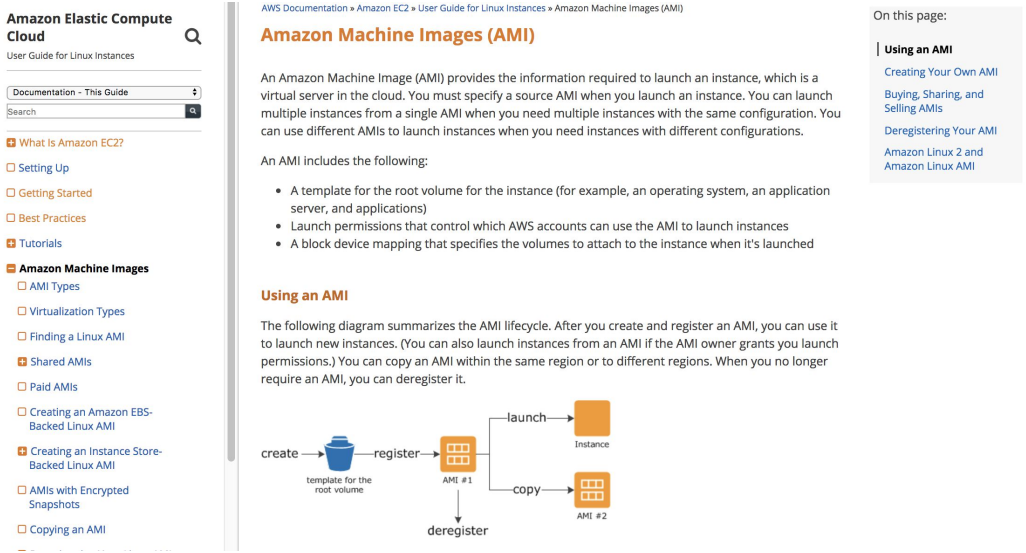
# 2014 - 2019 Best Practice: HTML Output
# 2014-2019 最佳实践：HTML 输出




- **Customized Docbook or DITA XML**
- **TOC View and Section marker included in UI**
- **Follows PDF formatting**
- **XSLT to generate HTML automatically**
  - **Simple format for lists, paras, links, titles and code dominate output**

- 定制的 Docbook 或 DITA XML
- 用户界面包括目录视图和章节标记
- 遵循 PDF 格式
- 用 XSLT 以自动生成 HTML
  - 简易格式针对列表、段落、链接、标题以及以代码主导的输出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# 2014 - 2019 Best Practice: PDF Output
# 2014-2019 最佳实践：PDF 输出

## Amazon Machine Images (AMI)

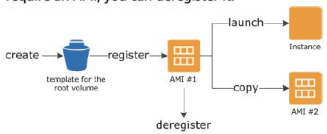
An Amazon Machine Image (AMI) provides the information required to launch an instance, which is a virtual server in the cloud. You must specify a source AMI when you launch an instance. You can launch multiple instances from a single AMI when you need multiple instances with the same configuration. You can use different AMIs to launch instances when you need instances with different configurations.

An AMI includes the following:

- A template for the root volume for the instance (for example, an operating system, an application server, and applications)
- Launch permissions that control which AWS accounts can use the AMI to launch instances
- A block device mapping that specifies the volumes to attach to the instance when it's launched

### Using an AMI

The following diagram summarizes the AMI lifecycle. After you create and register an AMI, you can use it to launch new instances. (You can also launch instances from an AMI if the AMI owner grants you launch permissions.) You can copy an AMI within the same region or to different regions. When you no longer require an AMI, you can deregister it.




You can search for an AMI that meets the criteria for your instance. You can search for AMIs provided by AWS or AMIs provided by the community. For more information, see AMI Types (p. 83) and Finding a Linux AMI (p. 87).

When you are connected to an instance, you can use it just like you use any other server. For information about launching, connecting, and using your instance, see Amazon EC2 Instances (p. 163).

- **Customized Docbook or DITA XML**
- **XSLT to generate XSL-FO automatically**
- **Apache FOP to render PDF**
  - **Simple format for lists, paras, links, titles and code dominate output**

- 定制的 Docbook 或 DITA XML
- 用 XSLT 以自动生成 XSL-FO
- 用 Apache FOP 做出 PDF
  - 简易格式针对列表、段落、链接、标题以及以代码主导的输出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# Fundamental Question
# 基本问题

## What are the trends in technical content delivery systems in 2021?

## 2021 年技术内容发布系统的趋势会怎样？



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# 2021 Rapid Movement Towards Touchless Economy
# 2021 年迅速走向非接触式经济

## Demands on Technical Content:

对于技术内容的需求

- **Complex Sales Processes**

  复杂的销售流程

- **Retail Sales** 零售销售
- **In Person Maintenance** 亲自维护
- **Technical Conferences** 技术会议
- **School Class Rooms** 学校课堂
- **Hospital Visits** 医院探访
- **In Flight Menus** 客机菜单

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# Trend: Acceleration of Digital Transformation

## 趋势：加速数字化转型

**“The move from operational efficiency to product innovation relies on intelligent content delivery”**

**”从提高运营效率到产品革新依赖于智能内容的交付“**

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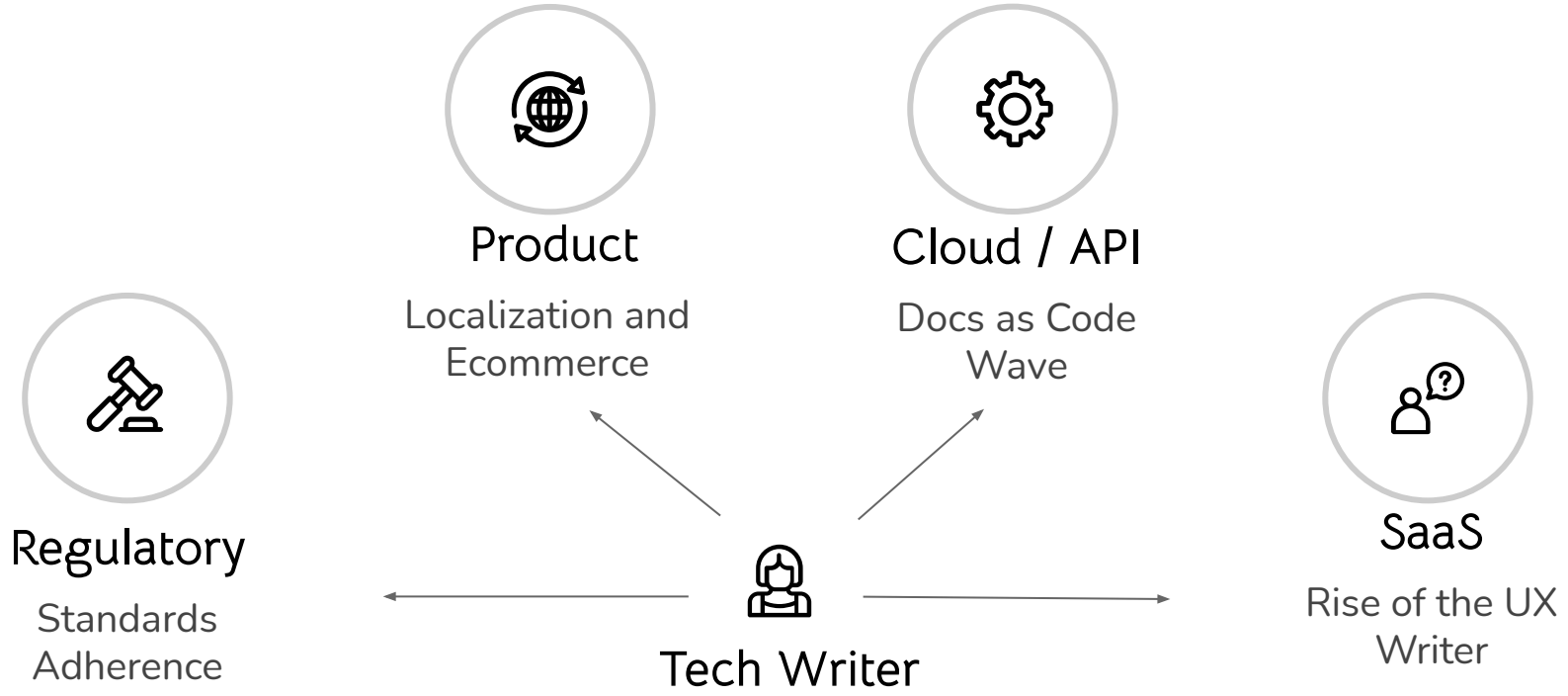
# Trend: Divergence of Technical Communication Tools
# 趋势：技术传播工具的分化



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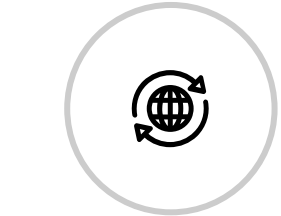
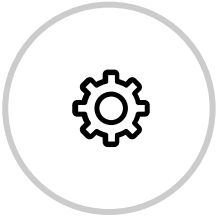
# Trend: Divergence of Technical Communication Tools
# 趋势：技术传播工具的分化



**产品**

本地化和电子商务



**云 / API**

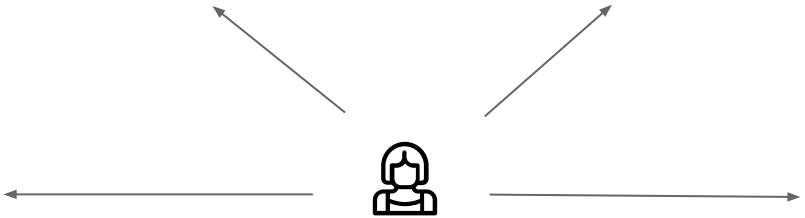
文档代码化

**监管领域**

遵循标准

**SaaS**

UX 作家的崛起



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# Trend: Focus on Content Delivery Applications
# 趋势:聚焦内容交付应用程序

## Documents
Level 1
Applications
deliver content as
**whole documents**

## Topics
Level 2
Applications
deliver content
as **topic sections**

## Answers
Level 3
Applications
deliver content
as **answers to questions**

## Insight
Level 4
Applications
deliver content
as **insight to contextual situations**

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# Trend: Focus on Content Delivery Applications
# 趋势：聚焦内容交付应用程序

**文档**
层级 1
应用程序将内容作为整个文档交付

**主题**
层级2
应用程序将内容作为主题部分交付

**回答**
层级 3
应用程序提供内容作为问题的答案

**洞察**
层级 4
应用程序洞悉上下文情况并提供内容作为引申答案

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# Key Delivery Channel - AR
# 关键传送渠道 - AR 增强现实

## Content Considerations:

- Syncing with technical content
- Display of content in AR application
- Search by object

## 内容注意事项:

- 与技术内容同步
- 在 AR 应用程序中显示内容
- 按对象进行搜索



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# Key Delivery Channel - Chat Bots
# 关键传送渠道 - 聊天机器人

## Content Considerations

- WeChat Integration
- Transfer to Live Agents
- Task Macros
- Conversational UI
- Integration of Product Content

## 内容注意事项

- 微信整合
- 转移到实时代理程序
- 任务宏
- 对话式用户界面
- 产品内容整合

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# Key Delivery Channel - Consoles
# 关键传送渠道 - 控制台

## Content Considerations

- UX Challenges
- Answer Delivery
- Console vs. Display
- Conversational UI
- Integration of Product Content

## 内容注意事项

- UX 挑战
- 应答传送
- 控制台与显示
- 对话式用户界面
- 产品内容整合

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# Key Delivery Channel - Domain Specific “Hey Siri”

# 关键传送渠道 - 特定领域的“嘿 Siri”

## Content Considerations

- Hands-free Access
- Voice to Text AI
- API to Support Content
- Conversational UI

## 内容注意事项

- 免提访问
- 语音转文字人工智能
- 支持内容的 API
- 对话式用户界面



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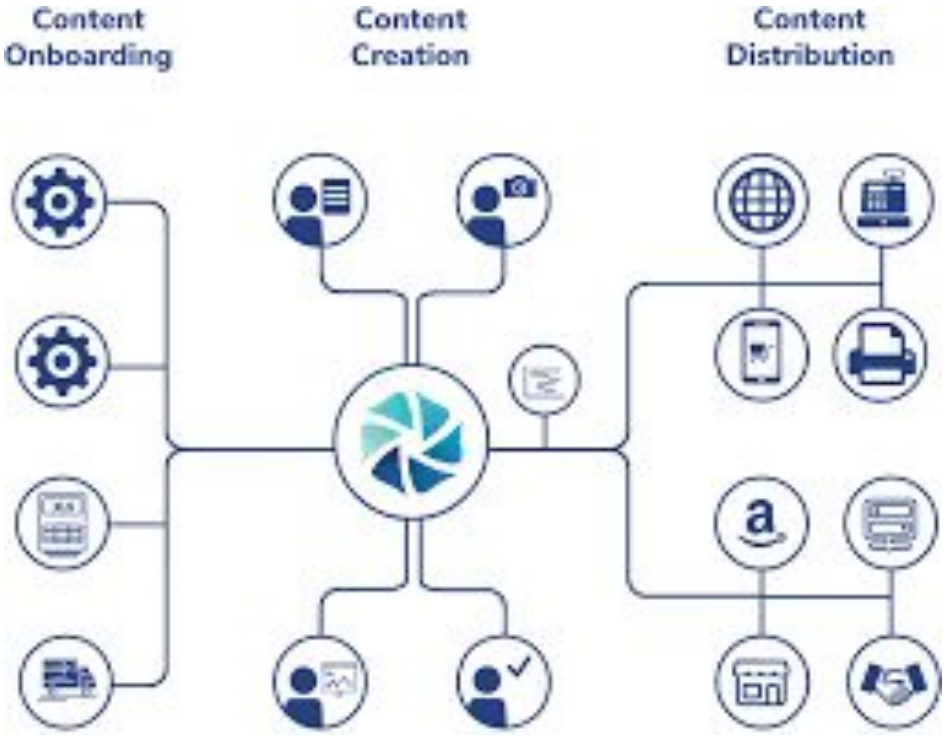
# Key Delivery Channel - ECommerce
# 关键传送渠道:电子商务

## Content Considerations

- Enriched Content Sells More
- Marketing / Technology Hybrid
- Product Recommendations
- Support and Warranty Info

## 内容注意事项

- 丰富的内容使销量增加
- 营销/技术混合
- 产品推荐
- 支持和保修信息



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# Trend: Simplified Document Structure
# 趋势：简化的文档结构

"[We]..keep the XML simple… and avoid using anything that cannot be easily transformed into Markdown."

"[我们] ...保持 XML 简单……避免使用任何无法轻松转换为 Markdown 的内容。"



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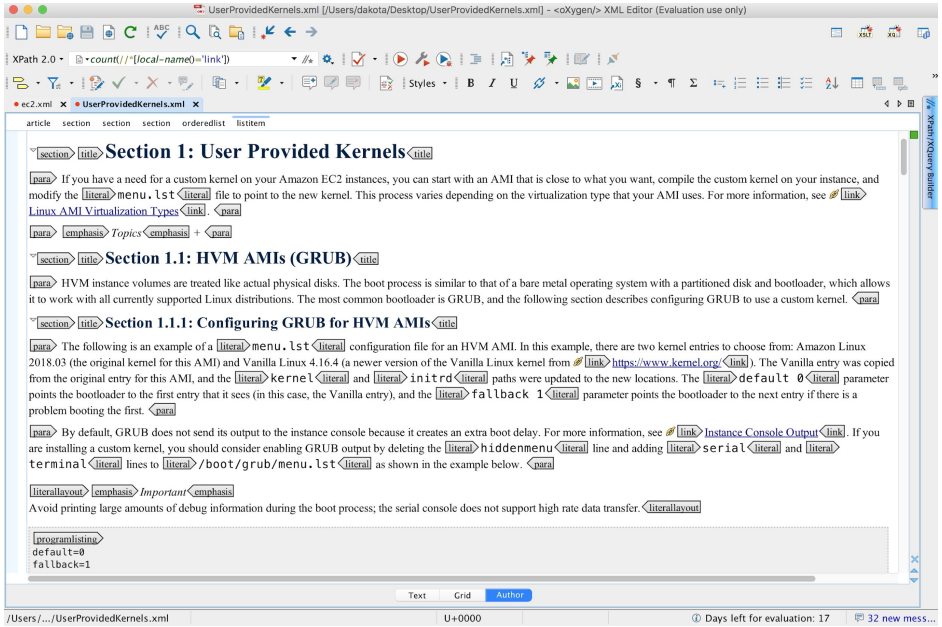
# Trend: Stronger Competition for XML Editing
# 趋势：XML 编辑软件竞争更为激烈




- Desktop XML Editing created based on Oxygen
- Simplified DITA XML is still standard
- Increased Demand for web based editing
- HTML, PDF, and MD formats generated w/ XSL

- 基于 Oxygen 创建的桌面 XML 编辑
- 简化的 DITA XML 仍是标准
- 对基于 Web 编辑的需求增加
- 通过 XSL 生成的 HTML，PDF 和 MD 格式

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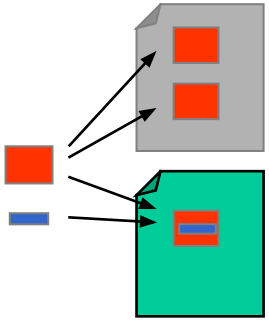
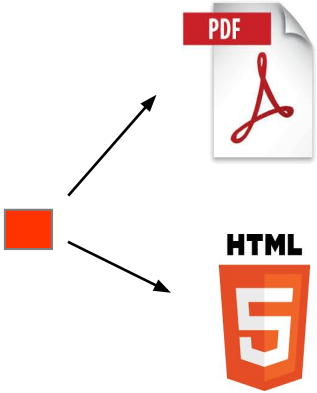
# Trend: Lower Business Priority for Content Reuse

## 趋势：内容重用商业优先级降低



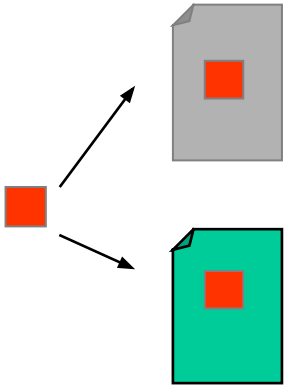
**Variable / Content Reuse**

**变量/内容重用**



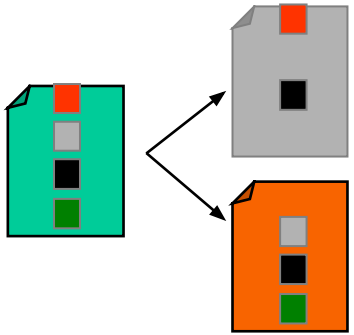

**Multichannel Reuse**

**多渠道重用**



**Topic Reuse**

**主题重用**



**Profile Reuse**

**属性重用**



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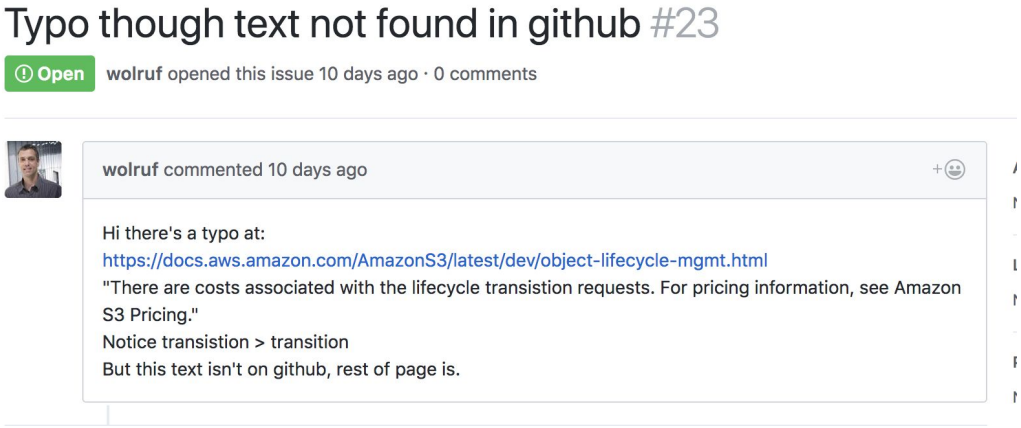
# Trend: Publish to Github for Content Review
# 趋势：发布到 Github 用以内容审阅




- **XML published to Markdown via XSL**
- **Github Pull Requests and Merges**
- **Markdown Roundtripping via pandocs**
- **Manual review by writer to accept changes**
- **Manual update by writer to modify source**

- **XML 通过 XSL发布为 Markdown**
- **Github 抽取请求与合并**
- **Markdown 通过 pandocs 进行往返转换**
- **用户手册由作者审阅并接受更改**
- **用户手册由作者更改源文件**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# Trend: Using Internal Technology for Publishing
# 趋势：使用内部技术进行发布

中国技术传播联盟
China Technical Communication Alliance

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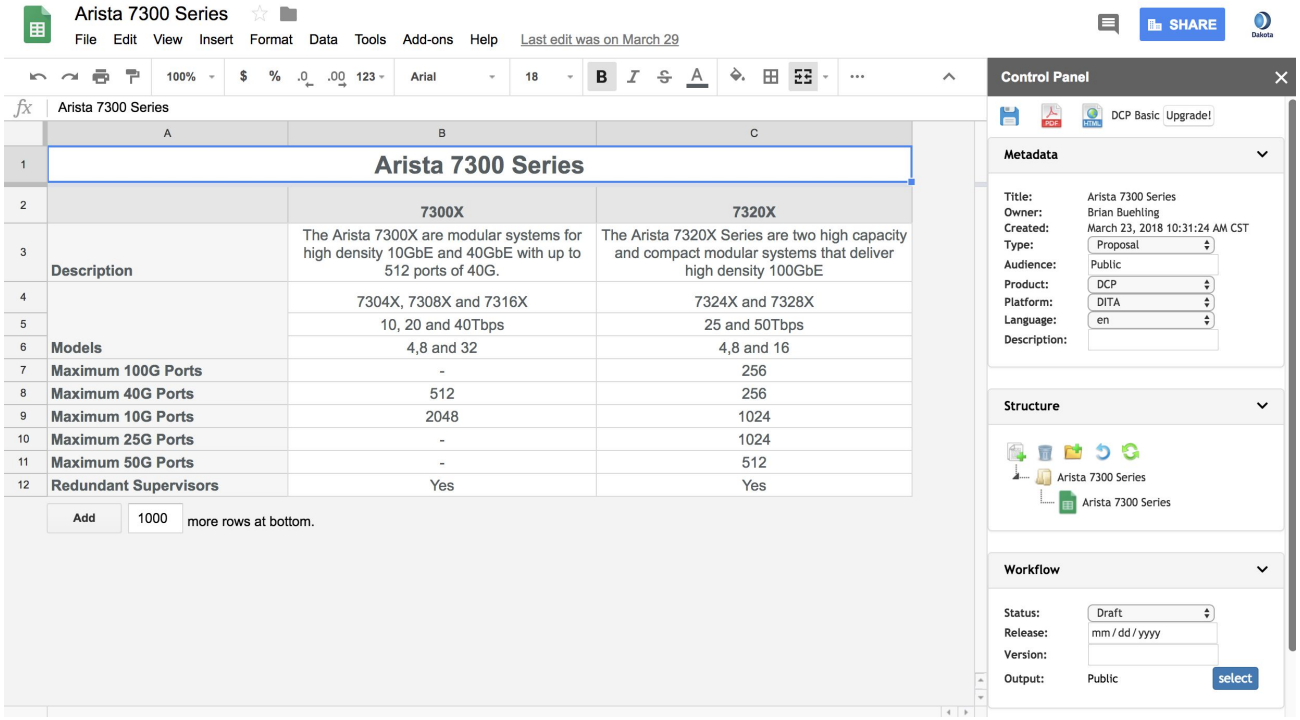
# Trend: Using Internal Technology for Publishing
# 趋势：使用内部技术进行发布

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# Cloud Trend: Emergence of "Programmer" Writer
# 云引发的趋势：出现程序员作家

- A minimum of five years in a technical writing role supporting software developers or cloud architects
- Experience with at least one programming language, such as Ruby, Python, Java, PHP, C#, Node.js or Go
- Knowledge and experience with cloud technologies and distributed systems
- Excellent written and verbal communication skills, especially the ability to present complex
- Experience with command-line interfaces, software architecture, or infrastructure solutions
- Degree in Computer Science or a related field
- Familiarity with the AWS products and services

- 至少具备五年的技术写作职位经历，曾经支持软件开发人员或云架构师
- 具有至少一种编程语言的经验，例如 **Ruby**，**Python**，**Java**，**PHP**，**C#**，**Node.js** 或 **Go**
- 云技术和分布式系统的知识和经验
- 优秀的书面和口头表达能力，尤其是表达复杂事物的能力
- 具有命令行界面，软件架构或基础架构解决方案的经验
- 计算机科学或相关领域的学位
- 熟悉 **AWS** 产品和服务


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# Cloud Trend: Recruiting from Microsoft and AWS
# 云引发的趋势：从 Microsoft 和 AWS 招募人才

**57% of respondents were former Microsoft Azure tech writers**

57% 的响应者为原 Microsoft Azure 的技术写作人员

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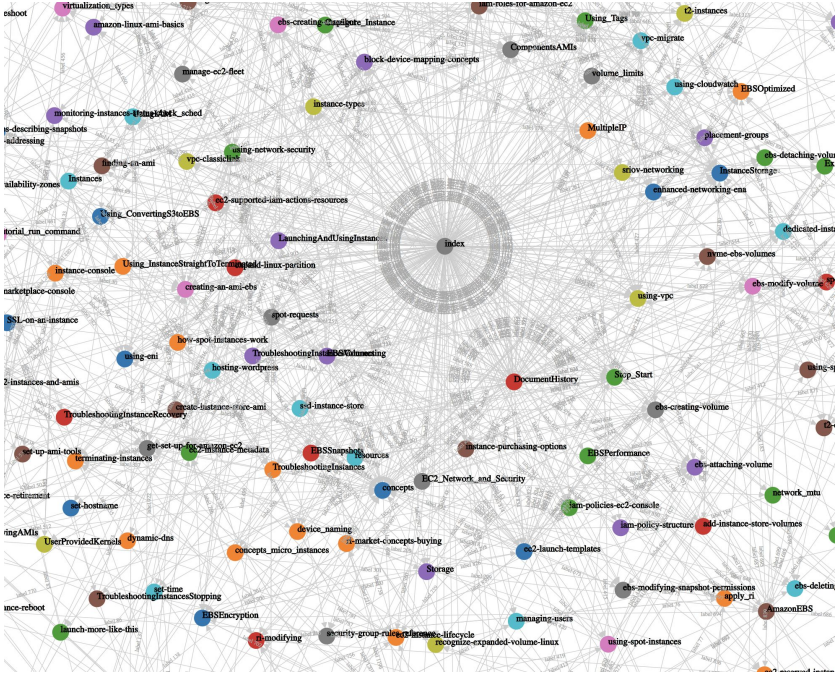
# Opportunity: Visual Content Analysis
# 机会:视觉内容分析




- Visualization applied to XML for analysis
- Clusters on key content  determined
- Ratios of links to topic patterns recorded
- Key content reuse topics recorded

- 为了便于分析对于 XML 进行了可视化应用
- 对于关键内容进行了集群
- 记录了链接与主题模式的比率
- 记录了关键内容重用主题

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# Looking Back on 2014 Trends for Comparison

## 回顾并比较 2014 年的趋势

- Consolidation of document structure to DITA
- Web-based content authoring
- Automation of technical training material
- Addition of content metric reporting
- Use of XML databases for distribution portals
- Efforts to build internal tech comm expertise
- Improvements to tech comm user interfaces

进一步用 DITA 巩固文档结构
基于网络的内容创作
技术培训材料的自动化
内容度量报告的添加
针对发布门户使用 XML 数据库
努力建立内部技术传播专业技能
技术传播用户界面的改进



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# Taking Action: Traditional Sources of Urgency

## 采取行动：传统的紧迫之源

- **Content Modeling / Reuse** 改进的内容建模/重复使用
- **Standards Adherence** 遵循标准
- **Best Practices** 最佳实践
- **Translation Process Improvement** 翻译流程改进
- **Poor Quality / Mistakes in Output** 低质量/输出有错
- **Cost Savings** 节约成本

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# Taking Action: Traditional Sources of Urgency

## 采取行动:传统的紧迫之源

- **Regulatory Compliance** 合规性
- **Competitor Comparison** 竞争对手比较
- **Management Edict** 管理层指令
- **Key Customer Request** 关键客户要求
- **Budget Expiration** 预算到期
- **No Alternative Solution** 没有可替代解决方案

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# Conclusions: Technical Documentation in 2021

## 结论：2021 年 的技术文档

- Further adoption of internal technology for publishing 进一步采用内部技术进行发布
- Simplified documents and content creation tools 简化的文档及内容创建工具
- Expanded use of formats like JSON and Markdown 扩展使用类似 JSON 和 Markdown 格式
- Further github integration for public reviews 进一步整合 Github 以供公众评论
- Dynamic content assembly for custom publishing 针对定制发布进行动态内容组合
- Answer delivery instead of document publishing 用应答交付代替文档发布
- AI integration for process monitoring for insight delivery 利用人工智能监视流程实现洞察交付



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