



# **ATIS IIF Use Cases and Relevance to CDNI**

Presented to IETF CDNI BoF

March 2011

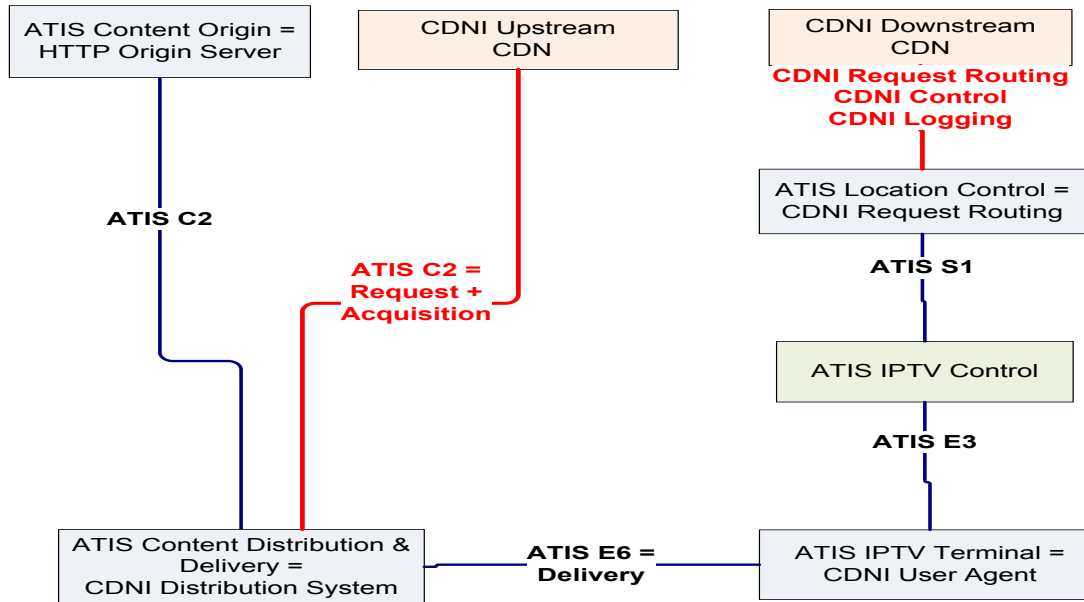
Bruce Thompson, Cisco



## **ATIS-0800042 IPTV Content on Demand Service**

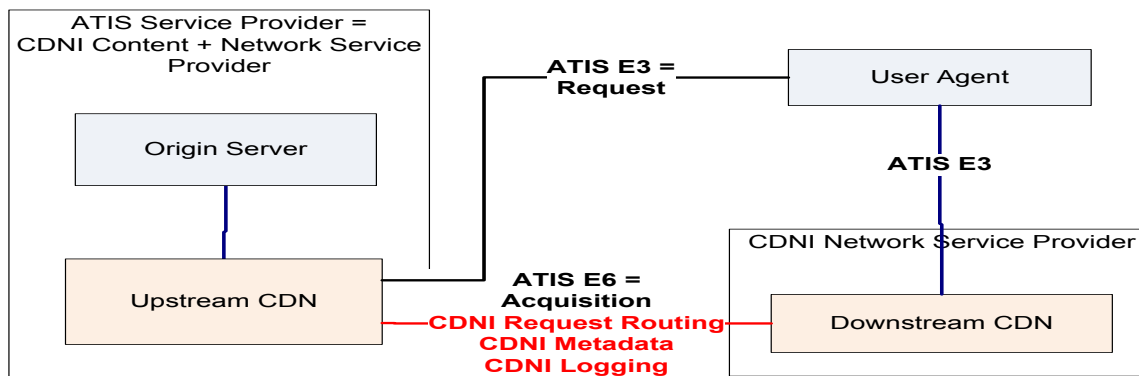
- Published on 11 January, 2011
- Built on ATIS IIF, ITU-T, 3GPP & IETF Specifications
- ATIS Internet Source Content
  - Builds on Architecture Defined ATIS-0800042
  - CoD Services between Content, Network, and Service Providers
  - Two Use Cases Relevant to CDNI
    - Off Net Delivery, Internet Sourced Content
- ATIS IIF Relation to CDNI
  - ATIS IIF architecture group focuses on developing architectures
  - Prefers to reference existing protocols where ever possible
  - ATIS IIF will be evaluating protocols defined by CDNI for inclusion in Internet Sourced Content Architecture

# atis ATIS CoD to CDNI Functional Mapping



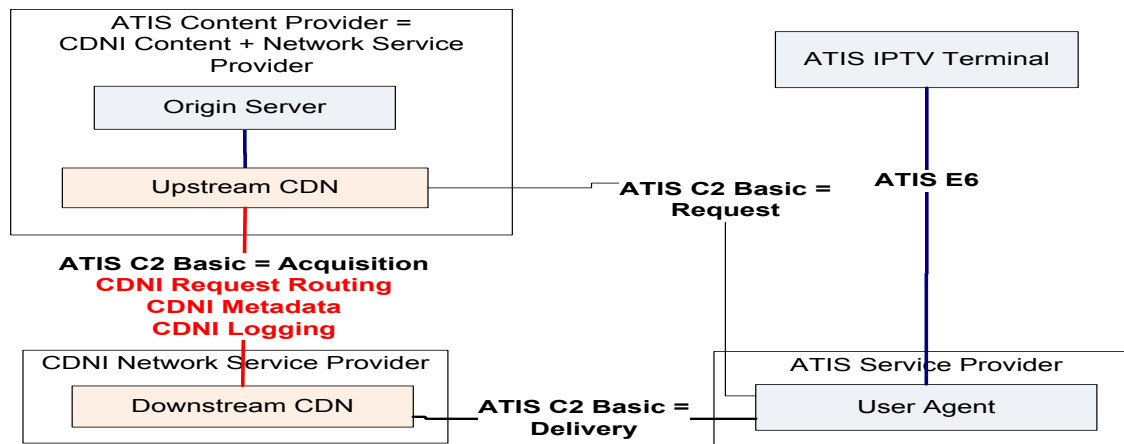
- ATIS Location Control = CDNI Request Routing  
Interface to Downstream CDN Through ATIS Location Control
- ATIS C2 = CDNI Request + Acquisition  
ATIS C2 = HTTP + Extensions for Media Resources, Scheduled Delivery  
Media Resource Metadata Describes Media Resource Structure  
Profiles Defined for Different Media Resource Classes  
MPEG-TS, ABR, etc.  
Includes Bandwidth, etc. of Media Resources

# Off Net Delivery



- Content Hosted by ATIS Service Provider Delivered to Roaming Subscribers
- Roles
  - ATIS Service Provider Operates Upstream CDN
  - Network Service Provider Operates Downstream CDN
- CDNI Interfaces / Protocols Between Upstream / Downstream CDN
- Matches Current CDNI Problem Statement & Requirements

# Internet Sourced Content Transparent Operation



- **Internet Sourced Content**

- Content Hosted by ATIS Content Provider

- Content Delivered to ATIS Service Provider Subscribers Through SP CDN

- Service Provider Owns Access Network

- CDN Path = ATIS Content Provider >> Network SP >> **ATIS SP** >> Subscriber

- **CDNI Transparent Operation**

- ATIS SP Appears as CDNI User Agent; Plays No Role in CDN Selection

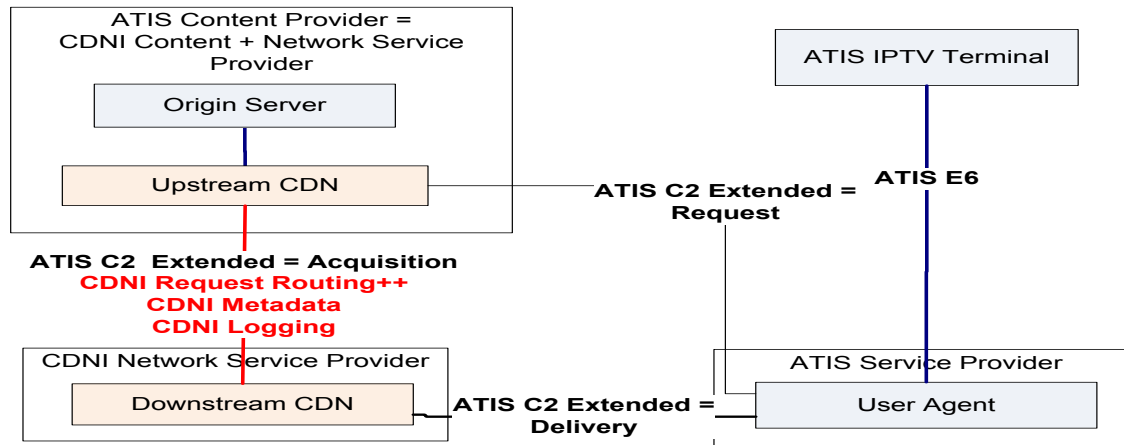
- **Matches Current CDNI Problem Statement & Requirements**

- **Approach May not be Optimal for Service Provider**

- Service Provider Provides Quality Guarantees to Subscribers

- Path from Content Provider to Service Provider May be Bandwidth Constrained

# Internet Sourced Content CDN Selection Influenced by ATIS Service Provider



- Internet Source Content Use Case – Same as Slide 5
- CDN Selection Influenced by ATIS Service Provider
  - ATIS SP Appears as CDNI User Agent; Influences CDN Selection Path
- Implementation Approach
  - ATIS SP Signals Attributes Required for Path Selection Via CDNI Request Protocol
  - Example: ATIS C2 Scheduled Transmission Service Request Header
  - Upstream CDN Includes Required Attributes in Request Routing Requests
- Matches Current CDNI Problem Statement – Adds New Requirements
  - Additional Attributes for CDNI Request Routing Protocol



# Thank You for The Opportunity to Present on behalf of ATIS IIF

- For more information, please visit [www.atis.org](http://www.atis.org).
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