Alliance for Telecommunications Industry Solutions (ATIS)

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ATIS In Brief

- ATIS provides leadership in strategic, operational and technical planning for the Information and Communications Technologies (ICT) industry.
  - CTO-level Board and broad membership defines strategic vision.
  - Technical committees of Subject Matter Experts (SMEs) integrate market-driven objectives and priorities with the needed standards and solutions.
  - Unique Formula – Connects CTO-level leadership and insight with SMEs doing the work.
- ATIS is the North American Organizational Partner of 3GPP.

Membership

- 200+ ATIS member companies represent a wide cross section of the global industry and 600 industry SMEs formulate the standards and solutions.
- Key stakeholders from the information and communications technologies industry include:
  - Wireless and wireline service providers;
  - Equipment manufacturers;
  - Providers of commercial mobile radio services;
  - Broadband providers;
  - Consumer electronics companies;
  - Public safety agencies; and
  - Internet service providers.

The ATIS Approach

- Uses a market-driven pragmatic, flexible and open approach to develop end-to-end, implementable, interoperable standards and a broad array of solutions.
  - Increases responsiveness and relevance to the priority needs of ATIS members and the rapidly changing marketplace.
  - Considers the business implications of technological approaches and choices.
  - Acknowledges the rapidly converging industry and the dynamic evolution of the network.
  - Supports the timely roll-out and delivery of new products and services.

The ATIS Approach

- The Technology and Operations ("TOPS") Council establishes and defines the priorities. The priorities are developed, analyzed, and studied in the following ways:
  - Landscape Team analysis – Fast overview of the proposed priority and the market.
  - Focus Groups – Standards Road Map/Gap Analysis/Work Plans for path forward.
- The Chief Information Officer ("CIO") Council – sets IT priorities to be addressed:
  - Recognizes that Network/IT views are converging now.
  - Current priorities include: Cloud Services, Free and Open Source Software, Enterprise Risk Management, Power Management.

ATIS' Technology and Operations (TOPS) Council

- Currently chaired by Paul Mankiewich, Juniper Networks.
- Activity has resulted in:
  - the study of 50+ different industry priority topics and issues;
  - the creation of ~20 different TOPS-commissioned groups; and
  - the establishment of 3 ATIS committees/forums (IIF, SON, CSF) and 3 subgroups (PTSC-NGCI, ESIF-NGES, NIPP-OAN).
- In 2011:
  - Completed its Landscape of Cloud Services and recommended the formation of the Cloud Services Forum;
  - Completed work on Facilities Consolidation and Convergence (report publicly available);
  - Completed a Landscape Team effort on M2M, SmartGrid and Connected Vehicle which resulted in the launch of an M2M Focus Group;
  - Advanced work on Network Optimization; and
  - Continues to support other TOPS work that has been moved into committees and addressed by subject matter experts.

Standards Development

- ATIS Committee and Forum work spans cloud, energy efficiency and sustainability, IPTV, emergency services, and next generation carrier interconnect, just to name a few.
- The Cloud Services Forum (CSF) was launched in mid-February 2011 to drive the rapid creation and adoption of implementable standards for cloud-based delivery of services.
- The IPTV Interoperability Forum (IIF) is recognized globally as the leading developer of requirements, standards, and specifications for Internet Protocol Television, or IPTV.
- The Ordering and Billing Forum (OBF) resolves issues impacting ordering, billing, provisioning and exchange of information about access services, other connectivity and related matters.

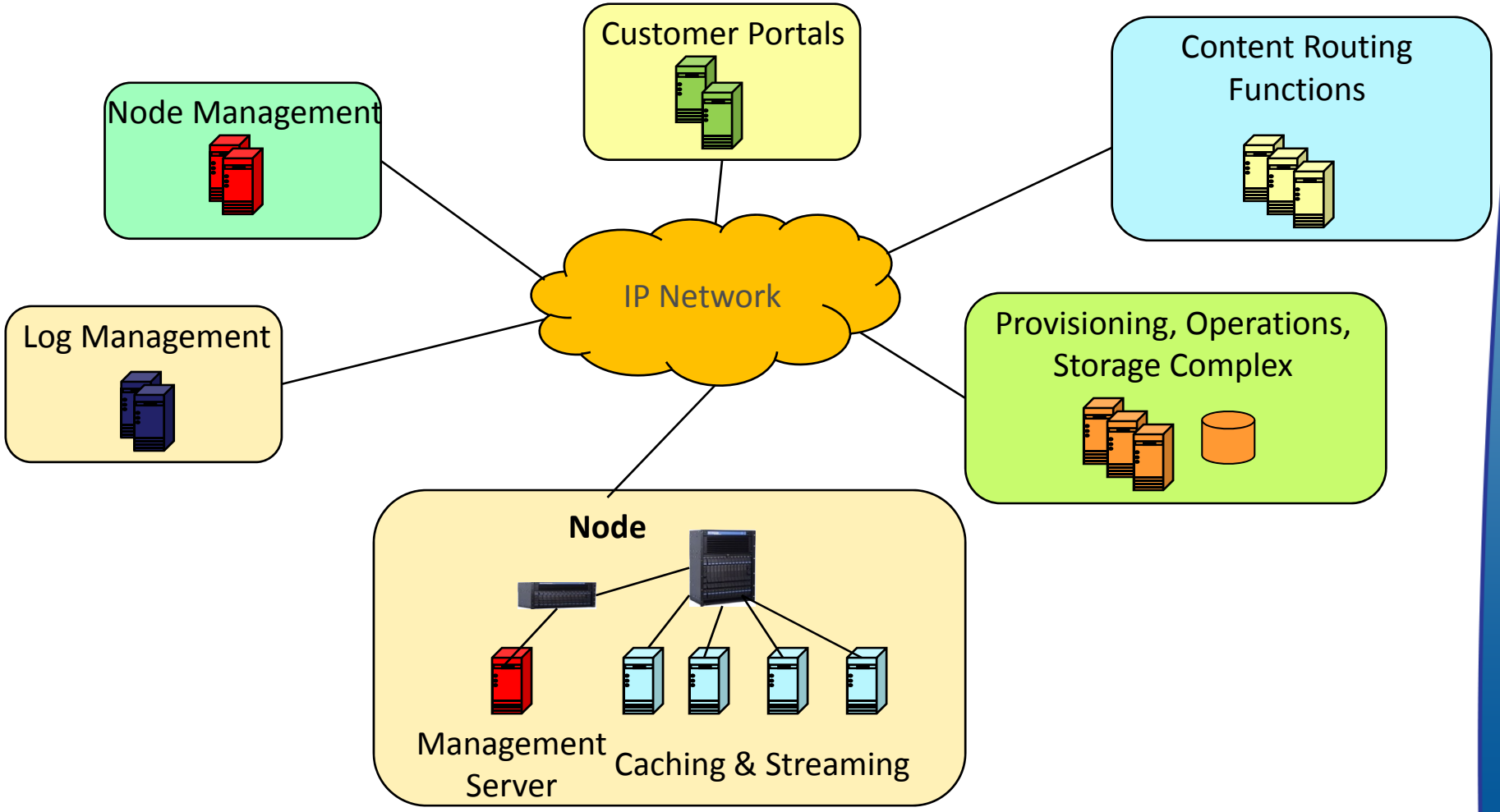
Standards Development (cont'd)

- The Packet Technologies and Systems Committee (PTSC) develops and recommends standards and technical reports related to services, architectures, and signaling, in addition to related subjects under consideration in other North American and international standards bodies.
- The Telecom Management and Operations Committee (TMOC) develops operations, administration, maintenance and provisioning standards, and other documentation related to Operations Support System (OSS) and Network Element (NE) functions and interfaces for communications networks - with an emphasis on standards development related to US communication networks in coordination with the development of international standards.

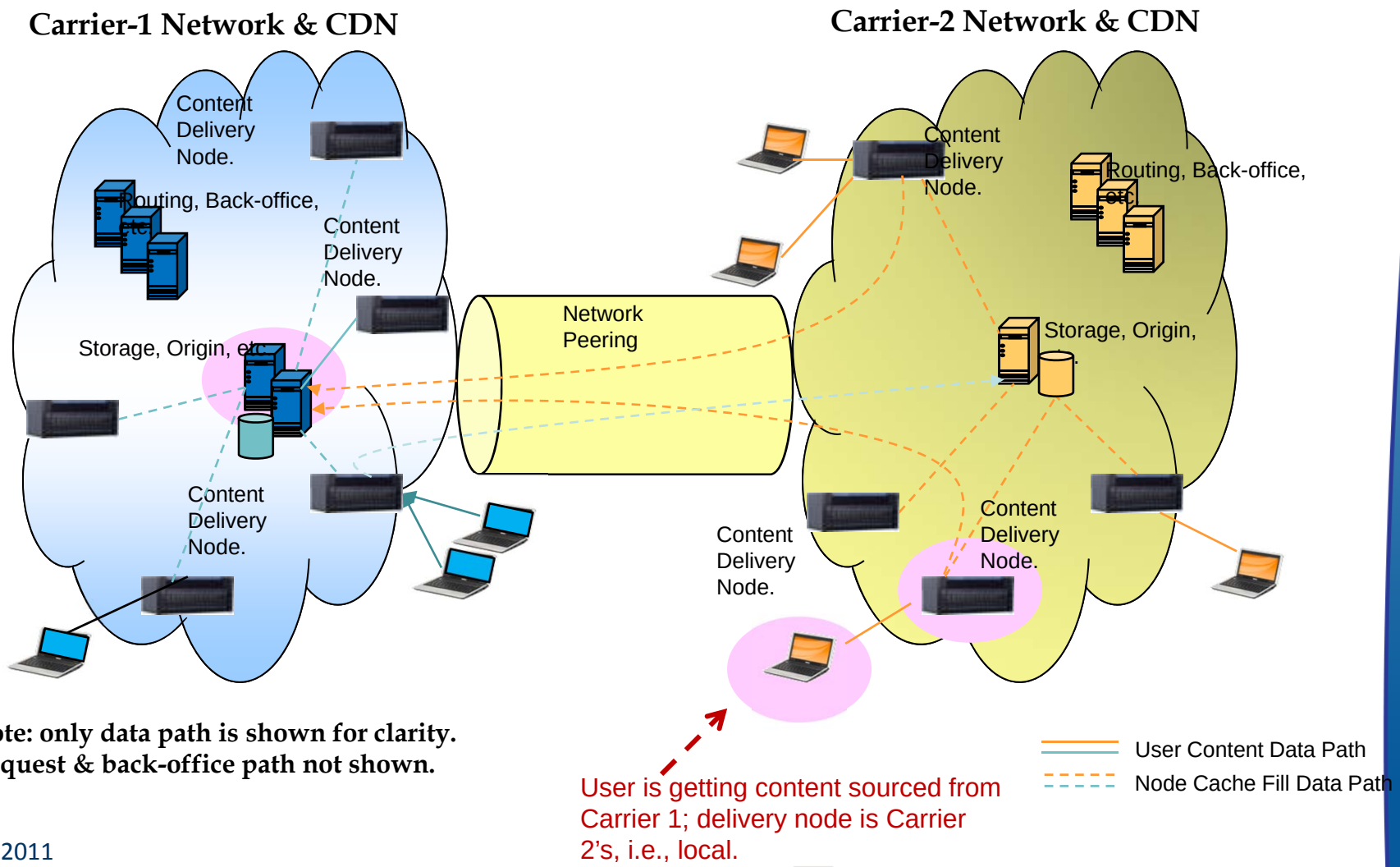
CDN-I Requirements Document

- Completed in just three months, the document provides brief descriptions of content distribution network (CDN) types and the motivation for efficiently inter-connecting two service provider domains for CDN delivery (over independent domains);
- Develops use case specifications for CDN Interconnection (CDN-I) that:
  - Describe support for the following functions: on-boarding, active interconnection and termination; and
  - Define success scenarios as well as failure conditions and recovery as appropriate.
- Lists a set of high level requirements in support of these use cases.

High Level Functions in a CDN



Inter-connected CDN Delivery Model Between Carriers (Cache based distribution)



Note: only data path is shown for clarity. Request & back-office path not shown.

User is getting content sourced from Carrier 1; delivery node is Carrier 2's, i.e., local.

Use Case Areas

Content Types and characteristics

Off-peak – Software Update download
Future Work: Peak & on-demand – Web, LFD, VOD, etc, Real-time – Events

Delivery Method

Unencrypted HTTP Unicast – Cache Distribution,
Future Work: Encrypted HTTPS SSL & Multicast

Content Provider Life-cycle. (TR Section numbers shown here)

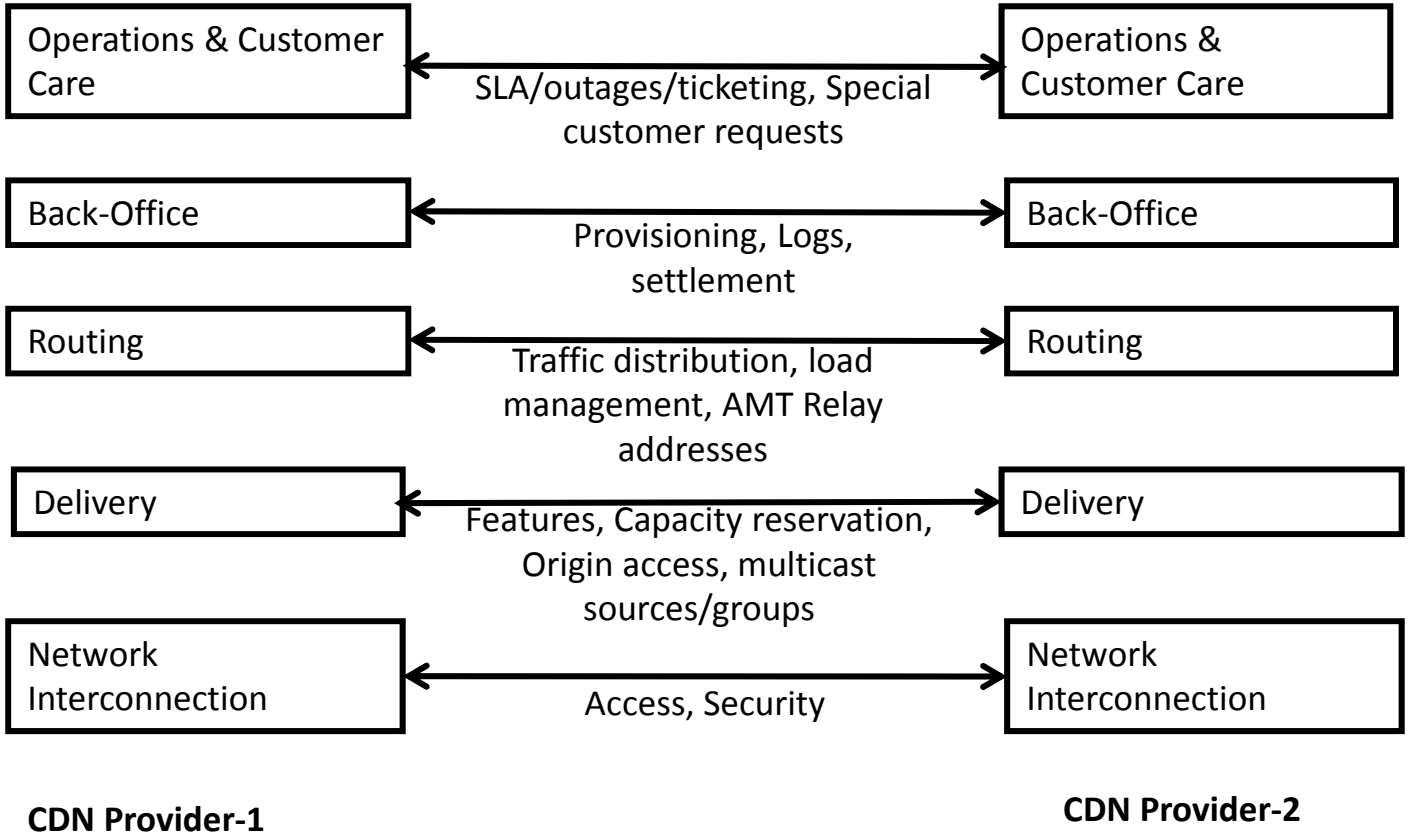
7.2.1	7.2.2	7.2.3 & 7.2.4	7.2.5	7.2.6
Pre-sale	Post-sale	Content Delivery	End Contract	Post mortem
Capabilities, reservation, trial	On-boarding, Testing	Additional & on-demand capabilities, operational management, Performance	Purge, etc.	Root cause, audit

Primary & Supporting CDN Life-cycle. (TR Section numbers shown here)

7.1.1	7.1.2	7.1.3	7.1.4
On Boarding	Active/interconnected Environment	Termination	Post mortem
Certification, capabilities, etc.	Load feedback, log, new capabilities, capacity, price actions, operations – outages, notification, etc.	Purge, settlements	

CDN-I Interface Domains

Bi-Lateral Agreement Between Two Carrier CDNs.
Assume that each carrier peers with another carrier at the CDN Level



In Summary

- ATIS' work extends beyond standards to encompass strategic technology planning.
- Driving ATIS initiatives are its Technology & Operations (TOPS) Council and CIO Council.
- ATIS Committees and Forums focus on industry priorities, and identify and resolve the challenges intersecting business and technology.
- Cross-collaboration among ATIS committees increasing.
- Information is key to understand the scope of the fixed mobile convergence problem, as well as short-term and long-range solutions.

For More Information

- ATIS Website: http://www.atis.org/