Professional Video Contribution over Optical Transport Networks

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**IP SHOWCASE THEATRE AT IBC – SEPT. 14-18, 2018**

Open Transport Network (OTN)
Connecting the world by fibre

OTN is a simple optical based transmission system

- **O**pen
  - Supports industry standard transport network converged into the broadcast domain
  - Fiber optics based multiplexer for voice, data, video and LAN/WAN applications
- **T**ransport
  - Simplified transparent physical layer, with high availability and features of IP and SDH/SONET
- **N**etwork
  - Resilient self healing network that enables SMPTE ST 2110, ST 2022-7/-8 to effectively work
  - 100 Mbps, 1,10,40,100 200Gbps, Legacy STM01/04/16,64/OC3,12,48,192
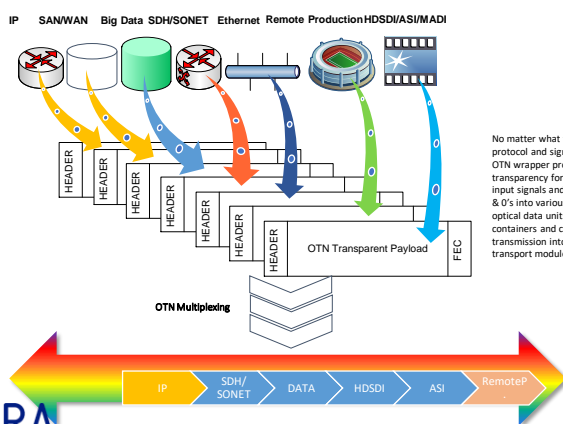 - HD-SDI, UHD-4K, ASI, MADI

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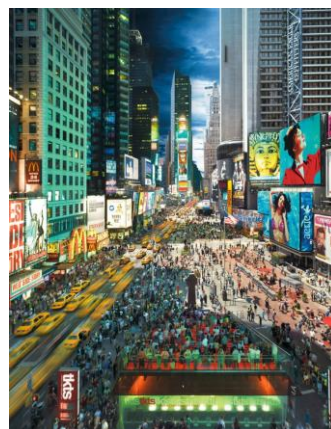
Remote Production: Converged Transport over OTN

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OTN and Remote Production

Scalability and simplicity addressing the need for reliable remote production networks

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OTN Simplified Transport for Remote Production
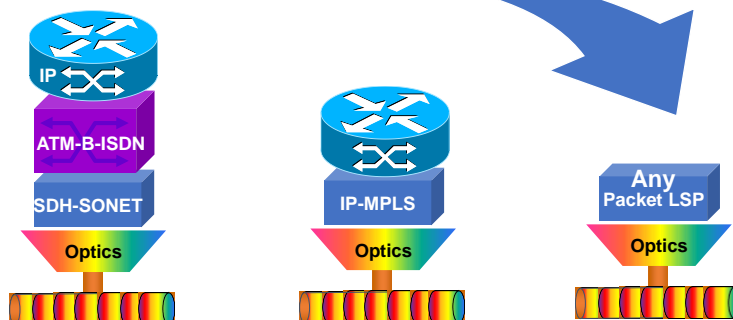
OTN Benefits

- Allows scalable high speed Ethernet optical transport for high density Remote Production
- Allows direct interconnections for multiple cameras direct into OTN cards
- Reduction of multiple layers which add complexity, simplification of transport
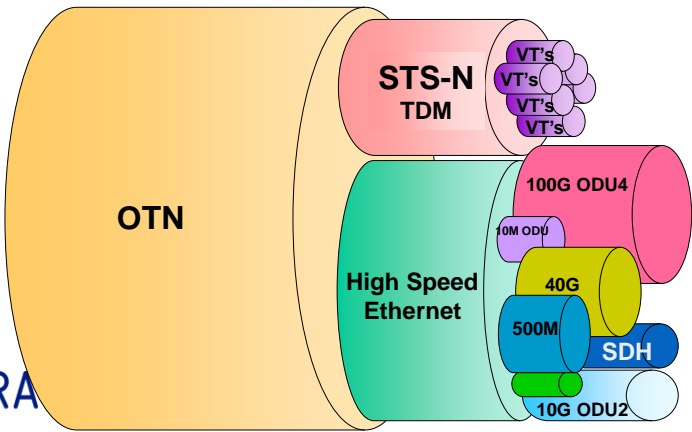- No need for compression
- Reduced processing delays
- Provides pre-allocated services for applications
- A distributed system allowing dynamic switching of video and audio
- Built-in redundancy
- Not a bandwidth on demand, but it could be with dedicated bandwidth at all times regards of system loading. OTN allows the network to be an open and programmable platform:
- Not a protocol, but rather physically oriented to integrate easily with applications equipment
- Provides the best features of TDM and Ethernet in the same product platform

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OTN Benefits

- Open and Simple
  - Easy to deploy, plug and play, fully transparent
- Multiplexed
  - Supports industry standard Transport Network interfaces Including SMPTE, DVB interfaces
  - Efficient Metro and long haul transport networks
  - Granular bandwidth 100 Mbps to 100 Gbps
  - Supports legacy services
- Network Characteristics
  - High availability, fast protection mechanism
  - Resilient, fully meshed self healing network
- Media Transport
  - Secured optical encrypted communication for all protocols in particular HD-SDI
  - Built in encryption algorithm GCM-AES-256
  - Built In efficient forward error correction suitable for contribution media

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Case studies

Korea 2018

The Task: Create a world wide OTN network to support Rights Holding Broadcasters on behalf of the Host Broadcaster.

The Magic: Rights Holding Broadcasters send their content across Telstra's global fibre network to our Dual and Diverse Meet Me Points of Presence across the globe, from Korea to APAC, the Americas, and Europe. Telstra supplied the high quality OTN low delay network.

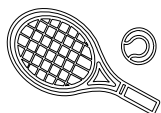**The Result:** Any Service, any Interface and any Protocol to many countries. One Cost Effective Next Generation Global Open Transport Network accommodating all Host and RHB requirements.

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Case studies

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WTA Tour for Perform Group

The Task: To move as much as possible away from satellite delivery to fibre network delivery, and to limit dependency on SNG services to more IP terrestrial fibre services.

The Magic: Telstra is one single partner providing a consistent, reliable, end to end content delivery network for all media from all courts from WTA events around the world.

The Result: Telstra simplified the technology and partnerships required to deliver content for WTA. Telstra innovating along with WTA Media and Perform Group to create a network capable of future UHD and 4K delivery.

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Case studies

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Remote production for Fox Sports Australia

The Task: To provide a high bandwidth, low latency network to Fox Sports Australia to support remote production workflows.

The Magic: Telstra delivered an end-to-end IP network, the Telstra Distributed Production Network (DPN), providing both PoP and path physical diversity. Venues have two different bandwidth allocations: high demand sites have 50Gbps for near uncompressed workflows, and regional, less used sites have 10Gbps.

The Result: More efficient use of technical and creative resources, optimisation of technology, economies of scale. Innovative technology strategy leading to business cost savings.

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Thank You!

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