APPLICATION
Carrier Hotel/Peering Exchange

(1) Brief Description

- This application covers carrier hotels and meet-me-rooms that provide a central focal point for service providers to co-locate and exchange internet and other carrier traffic amongst each other (peering).
- The hotel/peering exchange operator has staff on site usually M-F 8-5.
- These facilities are remotely located from the interfacing carriers. The interfacing carriers generally require a truck roll when fiber ports need to be provisioned in there cages. In addition physical access to these facilities is not always straightforward.
- Carrier hotels support a fair amount of connectivity changes and are growing at a rapid rate, but connectivity today is still handled manually.
- Automated Optical Switches can help manage the fiber connectivity quickly and efficiently from a central location.
- Remote management allows distributed unmanned facilities to be better controlled than would be otherwise possible.
- Interconnections may be managed remotely as well as the ability to troubleshoot problems with OTDR test equipment connected through the Automated Optical Switch. Problems can be quickly isolated and corrected.
- Carrier hotels and peering exchanges are being to add value added services such as Layer 2/3 switching and TDM multiplexing/grooming.

(2) Present Mode Operation (PMO)

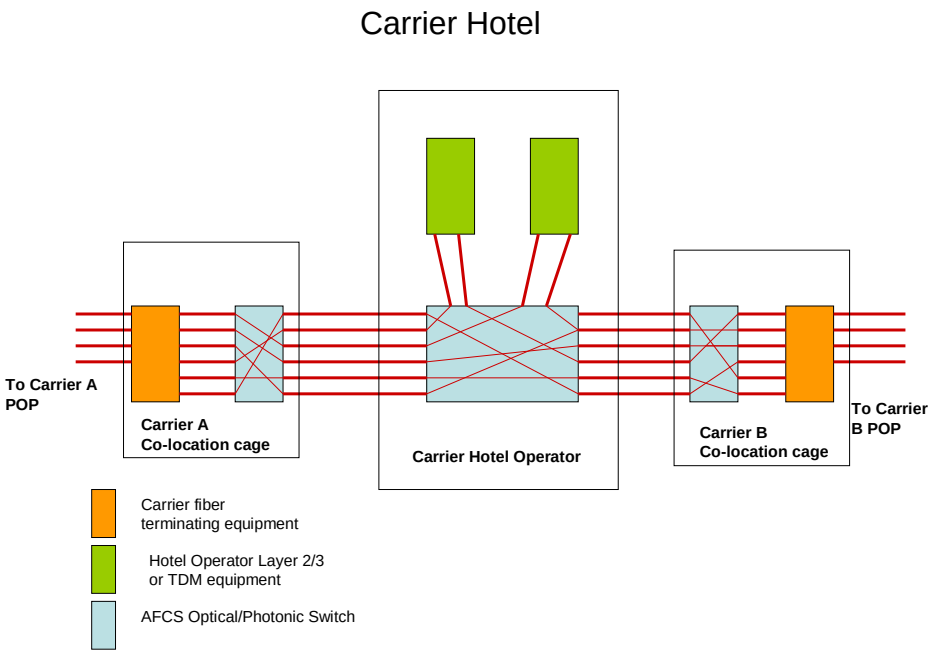
- At the Hotel the carriers have cages that terminate their fiber into their equipment. This can be a mixture of DWDM, Ethernet or both. They also have patch panels in their cages.
- The patch panels interface the cage to the Hotels FDF.
- Procedures
  - One carrier will place an order to interconnect with another. They then become the controlling carrier.
  - There are then three activities that take place.
  - A connection is provided by the Hotel's employee by cross connecting the service at an FDF
  - Assignments are passed to each interconnecting company.
  - The two companies then dispatch technicians to their respective cages to make their cross connections.
  - Next is a period of interconnection testing and coordination.

- Challenges and Limitations
  - Time and labor intensive process.
  - The accuracy of assignments becomes an issue as the hotel grows in size.
  - Manual activity results in troubles being generated in adjacent circuits.
  - Disconnects are not timely as the controlling company has issue orders and non-controlling company has their facilities tied up until the order flow is completed.
  - The hotel operator generally can not remove the jumper and can only turn back the connectors. By pulling a jumper they may cause trouble in a working circuit.

(3) How Can AFCS Help?

- By providing automation at either the carrier cage or within the core of the hotel or both.
- At the carrier cage, the carrier can remotely make the cross connection. Remotely test the connection. They can also reassign assets when not in use. The reassigning of an asset is very valuable to the non-controlling carrier who would normally have to wait for the controlling carrier to process an order.
- In the core of the hotel, the operator can provide faster cross connect service by automating that process. They can provide more accurate testing by being able to insert test equipment.
- Temporary connectivity becomes practical, supporting time of day and service on demand connectivity.
- If the hotel is moving to provide value added services (Layer 2/3 or TDM grooming). They can assign those assets on an as needed basis. This provides them with additional revenue. They then have the capability to increase the interface speeds and direct connect some carriers, 10 Gig to 10 Gig or to route a 10 Gig circuit to internal equipment for grooming. By providing photonic switching prior to grooming AFCS provides a greener more economical solution than optical-electrical-optical switching.

(4) Drawing of the Application



(5) Technical Benefits

- Insert test equipment at any of the switch locations by allocating an additional port.
- Test, ID and tag fibers.
- Verify active ports versus inactive ports.
- Faster more accurate provisioning.
- Support for 1:n redundancy of equipment ports and/or fiber paths.

(6) Quantitative Financial Benefit Calculation

• OPEX – tech cost	• 1 year, 50% of a tech
• OPEX – trouble ticket	• 1 year, 25 troubles
• Input Power Monitoring	• 10% of tech time
• SLA Cost Avoid	• 1-30 days revenue
• Goodwill	• 3-7% of revenue
• Rapid Provisioning	• 1 month revenue
• Electronic Monitor	• 1 day revenue

• Switch around failure	• 1 day revenue
• Remote switching	• 1 day tech time
• Long term Monitor	• 1 day tech time
• Consumables	• Reduced by 50% or more

(7) Who Can Benefit from the Application

- Operators of carrier hotels/peering exchanges
- Carriers that meet other carriers at carrier hotels/peering exchanges.

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