

# WSON Routing WG Drafts

1. Routing and Wavelength Assignment Information Model for WSON
2. General Network Element Constraint Encoding for GMPLS Controlled
3. Routing and Wavelength Assignment Information Encoding for WSON
4. OSPF Enhancement for Signal and Network Element Compatibility for WSON

# Authors/Contributors

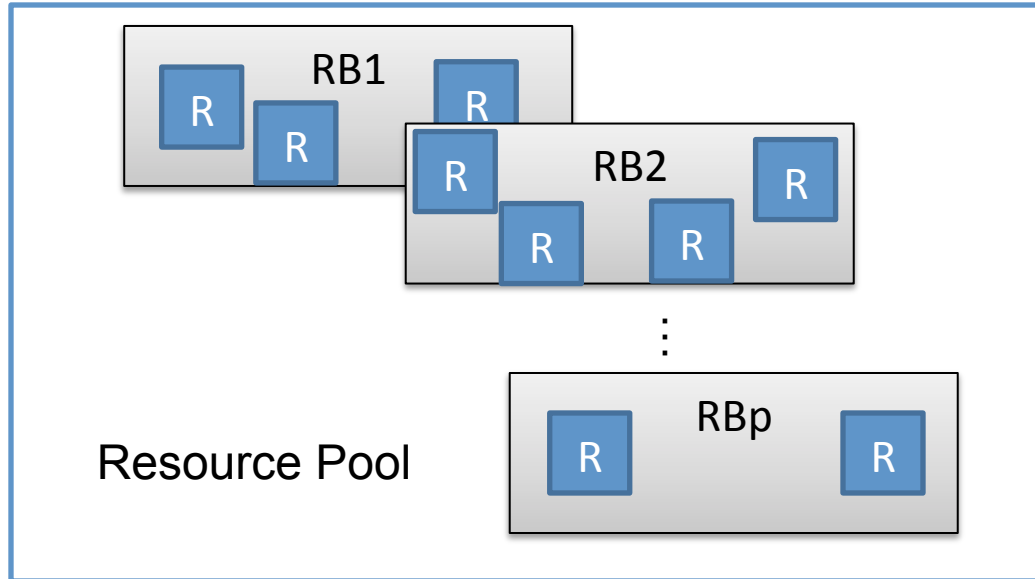
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# Routing and Wavelength Assignment **Information Model** for Wavelength Switched Optical Networks

## **draft-ietf-ccamp-wson-info-11.txt**

- Changes from 09 and 10 (**Editorial only**)
- Section 5: *clarified* the way that the resource pool is modeled from blocks of identical resources.
- Section 5.1: *grammar* fixes. *Removed* reference to "academic" modeling pre-print. Clarified RBNF resource pool model details.
- Section 5.2: *Formatting* fixes.
- Enhanced the *explanation* of shared fiber access to resources and updated Figure 2 to show a more general situation to be modeled.
- Removed all 1st person idioms.

# Resources, Blocks, Sets and Pools

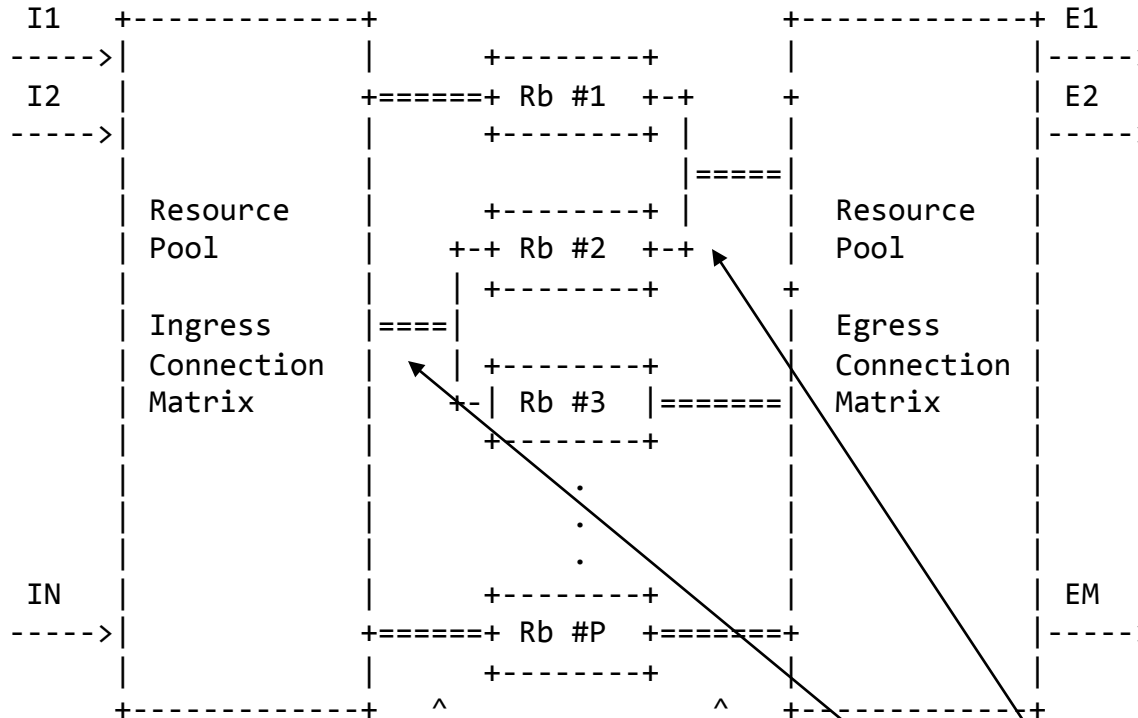


R = resource  
RB = resource  
block

Resource sets:  
(RB1, RB2),  
(RB2, RB3, RB4),  
Etc...

- Simple hierarchy:
  - The **resource pool** is partitioned into **resource blocks** containing individual **resources**.
- Efficient and general encoding:
  - Resources blocks are combined into **sets** for encoding of common properties.

# Enhanced Shared Fiber Pool Example



**Section 5.1**  
**Figure 2**  
**Resource pools**  
**with shared fiber**  
**access**

Single (shared) fibers for block ingress and egress

Ingress wavelength  
 availability for  
 each block ingress fiber

Egress wavelength  
 availability for  
 each block egress fiber

**Model supports**  
**general shared fiber**  
**access to blocks**  
**within pool**

# General Network Element Constraint Encoding for GMPLS Controlled Networks

**draft-ietf-ccamp-general-constraint-encode-04.txt**

- Changes from 03 version:
  - Removed informational BNF from section
  - Removed section on "Extension Encoding Usage Recommendations"
- No coding or technical changes.

# Encoding for Wavelength Switched Optical Networks

## draft-ietf-ccamp-rwa-wson-encode-11.txt

pools, blocks and resources.

- Section 4: Deleted reference to previously removed RBNF element. Fixed TLV figures and descriptions for consistent sub-sub-TLV nomenclature.
- Fixed ordering of fields in second half of sub-TLV example

resources.

- *Fixed the "Block Shared Access Wavelength Availability sub-TLV" of section 3.4 to use an "RB set field" rather than ~~sub-TLV "RB field"~~ of section 3.4 to use an "RB set field" rather than*  
(only coding change)

- Removed remaining 1st person idioms. Updated IANA

# Coding Change

09 Version

```

+++++
|          Ingress Available Wavelength Set Field          |
+++++
|          Egress Available Wavelength Set Field           |
+++++
|          Egress Available Wavelength Set Field           |
+++++
:
+++++

```

11 Version

```

+++++
|I|E|          RB Set Field Reserved                       ||
:
+++++
|          Ingress Available Wavelength Set Field          |
:          (Optional)                                     :
+++++
|          Egress Available Wavelength Set Field          |
:          (Optional)                                     :
+++++
|          Egress Available Wavelength Set Field           |
:          (Optional)                                     :
+++++

```

for consistency  
with other TLVs  
and generality



# OSPF Enhancement for Signal and Network Element Compatibility for Wavelength Switched Optical

**draft-ietf-ccamp-wson-signal-compatibility-ospf-04.txt**

- From 02 to 03:
  - ~~From 02 to 03:~~ Create a new top Level TLV , “Optical Node Property” to advertise all WSON resource related LSAs.
    - Create a new top Level TLV , “Optical Node Property” to advertise all WSON resource related LSAs.
- From 03 to 04:
  - Add a new sub-TLV, Block Shared Access Wavelength Availability TLV to be consistent with

# Next Step

- All documents consistent with WG decisions concerning partitioning of functionality
- All feature and functionality requests incorporated
- Clarifying and explanatory text added as requested