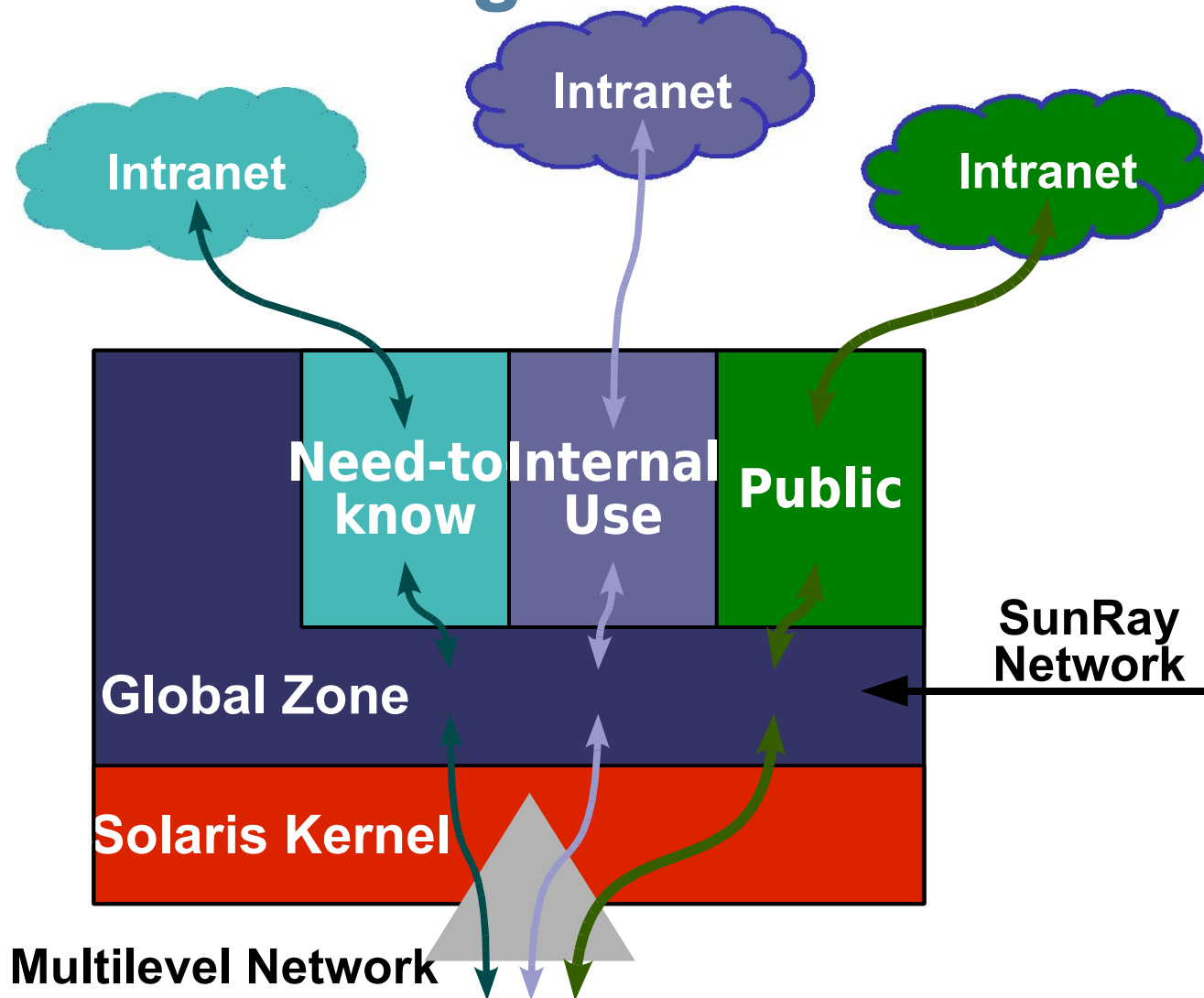


# Labeled Networking



# CIPSO problems

- Cleartext label visible on the wire in each packet
- Not protected end-to-end against modification
- Uses extra space in every packet - complicates MTU discovery

# Labeled IPsec

- Sensitivity label is an attribute of an IPsec Security Association (SA).
- Each SA is single-label, set by Key Management at creation.
- IPsec flow policy enforces label match.
- Label made available to applications is securely bound to traffic.

# Labeled IPsec: SADB Extensions

- PF\_KEY (RFC 2367) planned for this 10 years ago
- Labels are SA properties
- Inner sensitivity label matches cleartext traffic
- Outer sensitivity label appears on wire in clear
- Outer sensitivity label may be omitted from packet
  - > No extra space on the wire vs unlabeled IPsec!
- Outer label under control of key management daemon

# More information

- Limited prototype is working; not yet available
- Watch:
  - > <http://www.opensolaris.org/os/project/txipsec>
- Questions/comments:
  - > [security-discuss@opensolaris.org](mailto:security-discuss@opensolaris.org)