Synchronous Ethernet

Extending Ethernet Beyond Best Effort

Overview

- Description
- The "Five Criteria"
- Use Cases
- System Overview

Description

- A method of synchronizing frame distribution across an Ethernet LAN without compromising compatibility.

The "Five Criteria"

- [ ] Broad Market Potential
- [ ] Compatibility
- [ ] Distinct Identity
- [ ] Technical Feasibility
- [ ] Economic Feasibility

Broad Market Potential

- Consumer Electronics Applications
- Telecom Circuit Emulation
- Enterprise Content Distribution
- Pro-Audio Industry
- Extends Gigabit+ into New Markets
- Alternative to 1394b Solutions

Compatibility

- Ethernet Compatibility is Required
- Synchronous Mode is Negotiated
- No Sync Mode Below 1 Gbps

Distinct Identity

- Very Distinct Functionality
- High Value Add
- Natural Evolution for Ethernet

Technical Feasibility

- No Bridging
- No Segmentation
- No Change to PHY
- Minor Affect on System Requirements
- Minimal Buffering

Economic Feasibility

- Minor R&D Investment
- Major Product Value
- Economies of Scale (CE, IT, Telecom)
- Low Cost Solution for Expensive Problem

Use Cases

- [ ] Consumer Electronics
- [ ] (Pro-Audio)
- [ ] (Enterprise Distribution)
- [ ] (Telecom Circuit Emulation)
- [ ] (Industrial Operations)

Consumer Electronics

Next Generation AV Connector

1 to 1

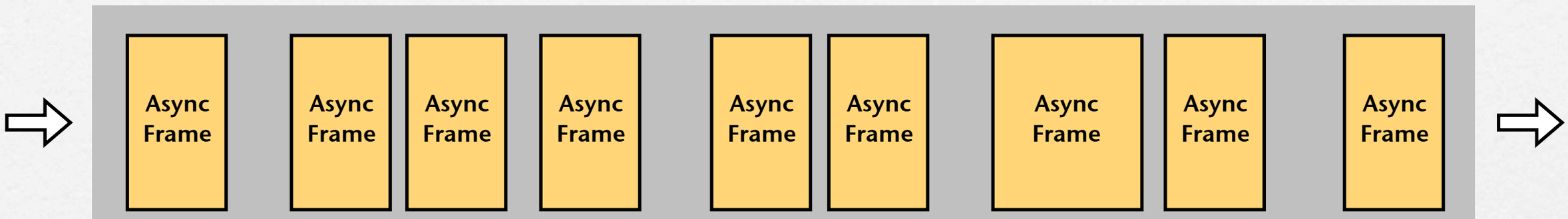
1 to Many

System Overview

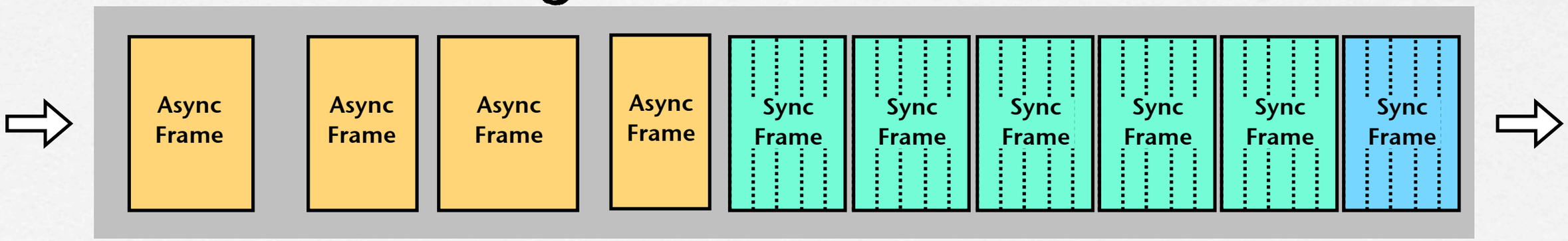
- Synchronization Cycle
- Sync Propagation
- Slot Forwarding
- Slot Reservation

Synchronization Cycle

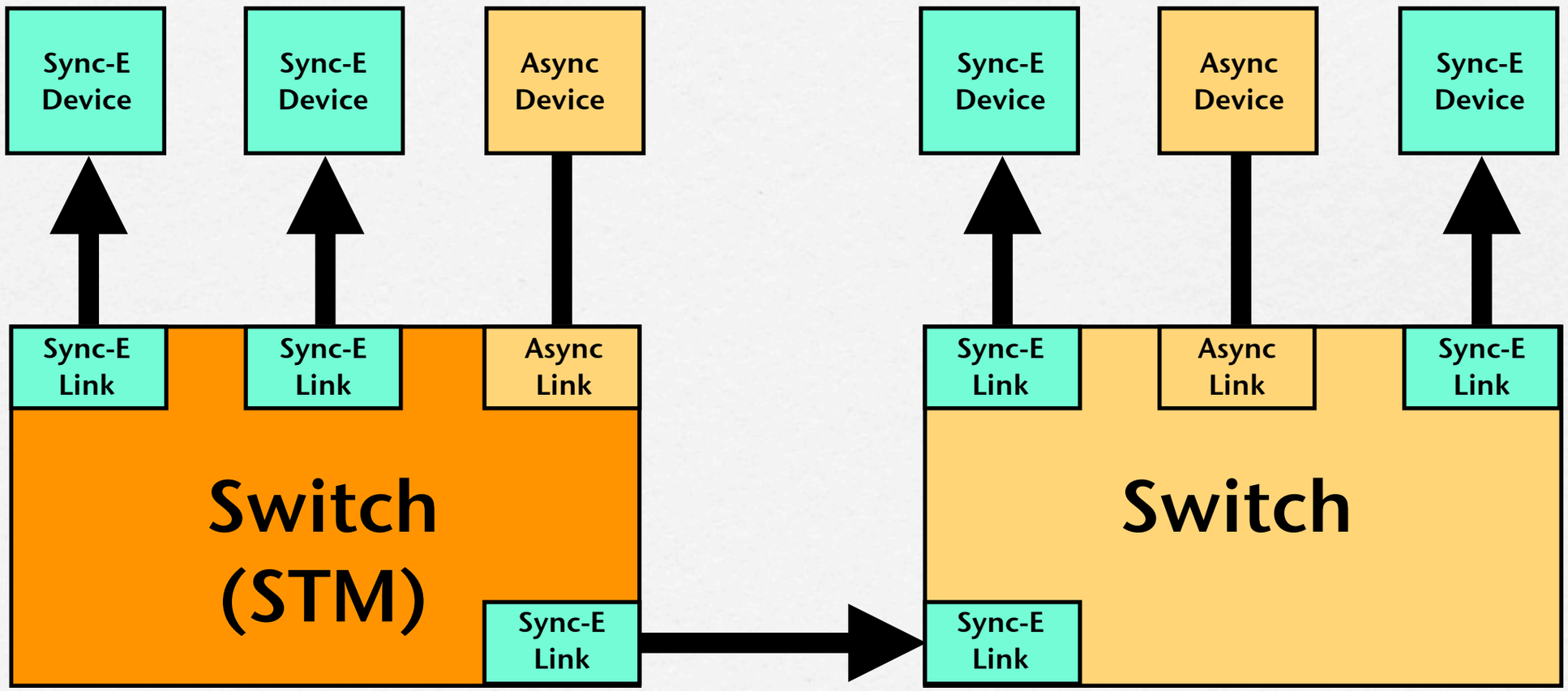
1000Base-T Standard Link



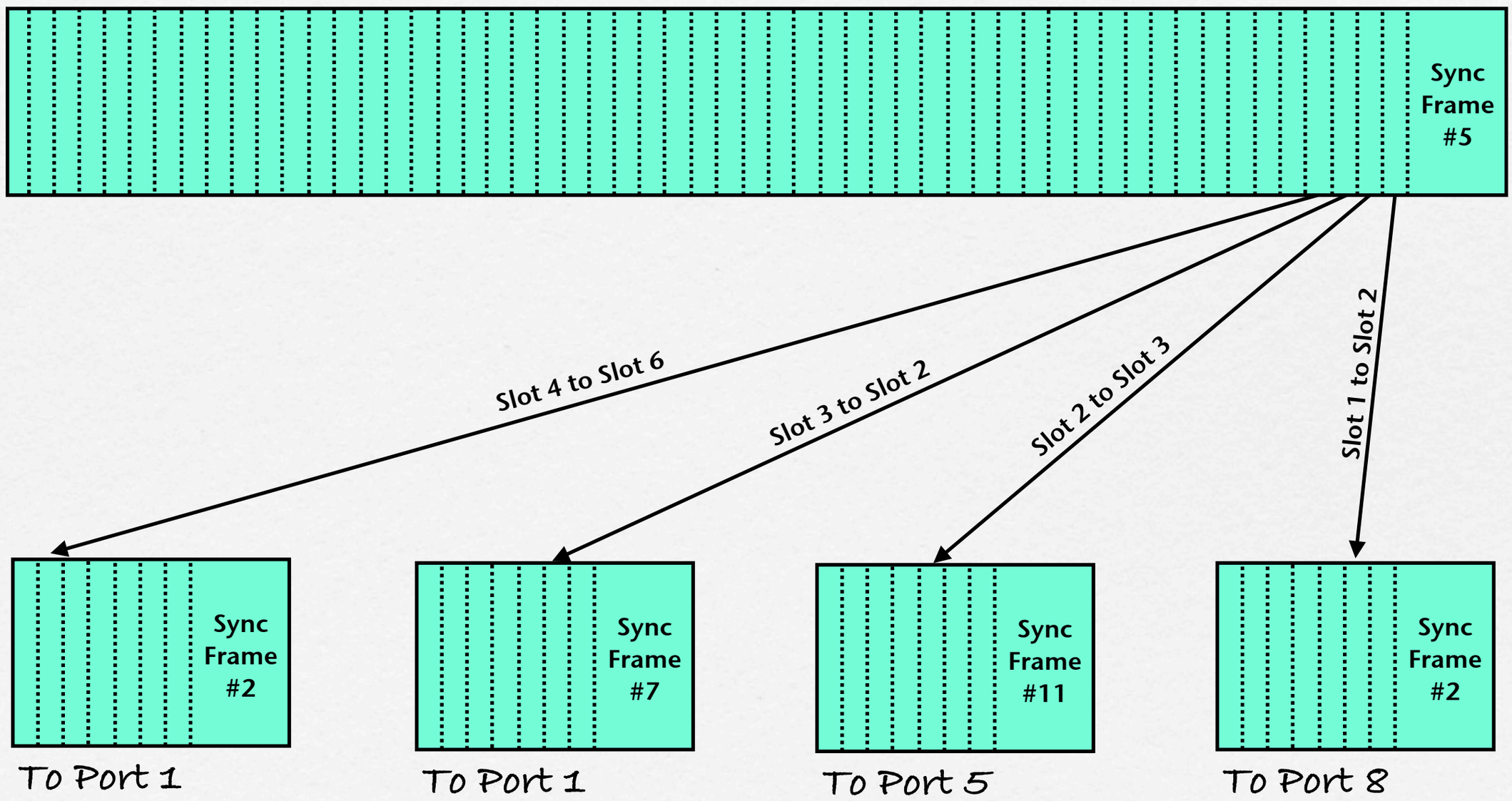
1000Base-T Synchronous Link



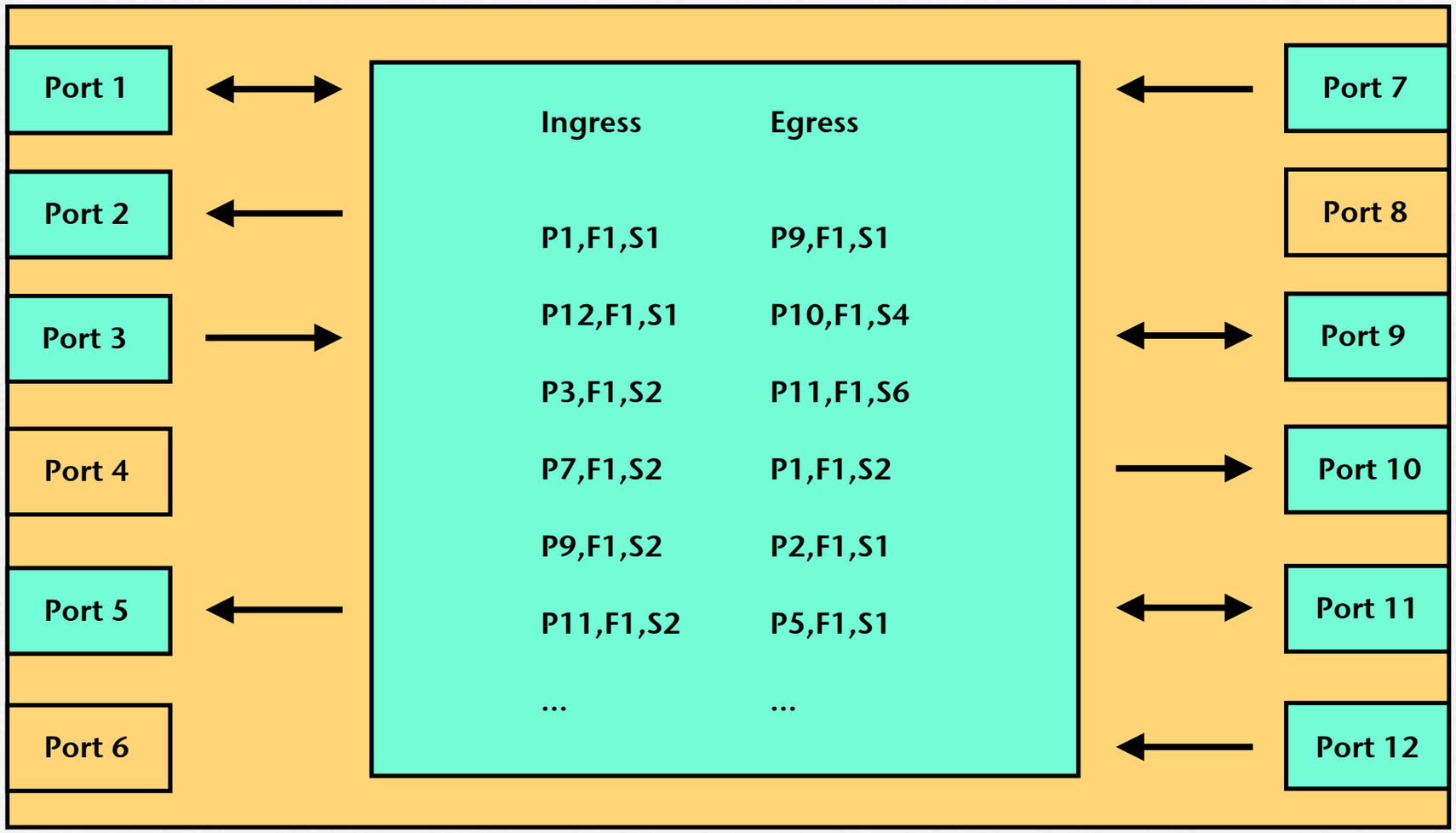
Sync Propagation



Slot Forwarding



Slot Reservation



Switch

Questions?

Contact:

John Gildred
Vice President of Engineering
Pioneer Research Center USA, Inc.
A Division of Pioneer Electronics

101 Metro Drive, Suite 264
San Jose, CA 95110

(408) 437-1800

john@pioneer-pra.com