inComm Network Services

CASE: TDM to SIP Migration

Wholesale Provider

Topics

- Background: TDM to SIP Migration
- Emerging Challenges
- Needs, Key Areas of Focus

- Access Network Enhancements
- Vendor Visibility: Domestic and International Traffic
- Softswitch Enhancements
- Results

Case: Service Provider TDM to SIP migration

- InComm: Wholesale provider of Domestic and International traffic
  - Focuses on smaller/regional wireless providers. CLECs
- Situation:
  - Initially access network involved TDM facilities
    - DS3s, DS1s with DMS 500 and 2 Veraz Soft-switches via Media Gateways
  - 2009-2010 significant growth with new customers and traffic blend
    - New service offerings.
- Drove SIP deployment: Agility
  - Time to market with new customers, vendors, capacity augmentations.

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Emerging Challenges

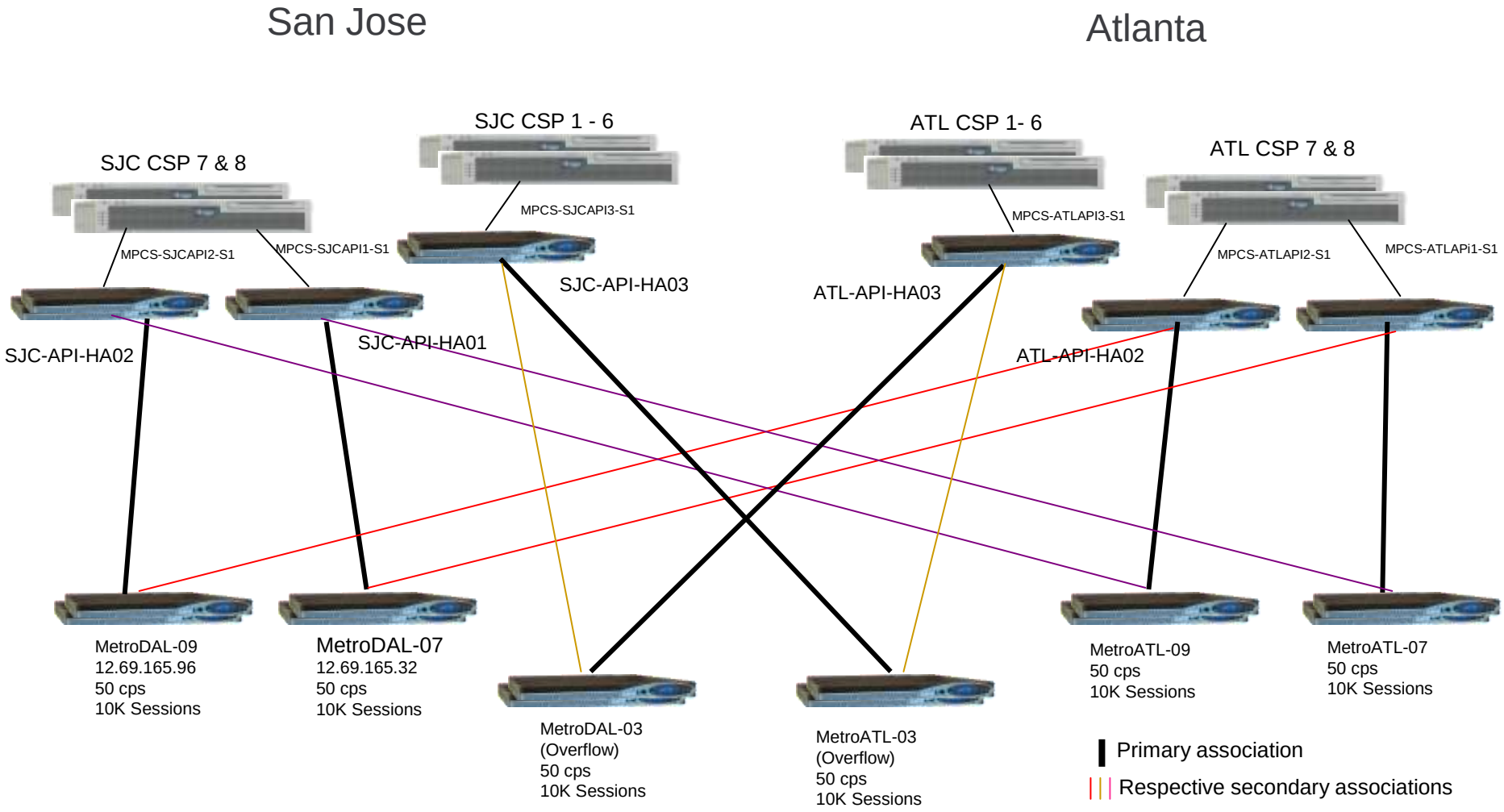
- Traffic Volumes
  - Greater diversity with Customer traffic.
- Significant increase in international traffic
  - Customers un-familiar with International business.
- New Vendors
  - New Vendor performance (system level).
  - Effectiveness of their routes.
  - Flashback-”Rate-change games”.
- Network Integration
  - Customer and Vendor Softswitch integration/interoperability.
- Limited perspective on SIP performance visibility

Ticket Volumes: Significant Increase

Needs, Key Areas of Focus:

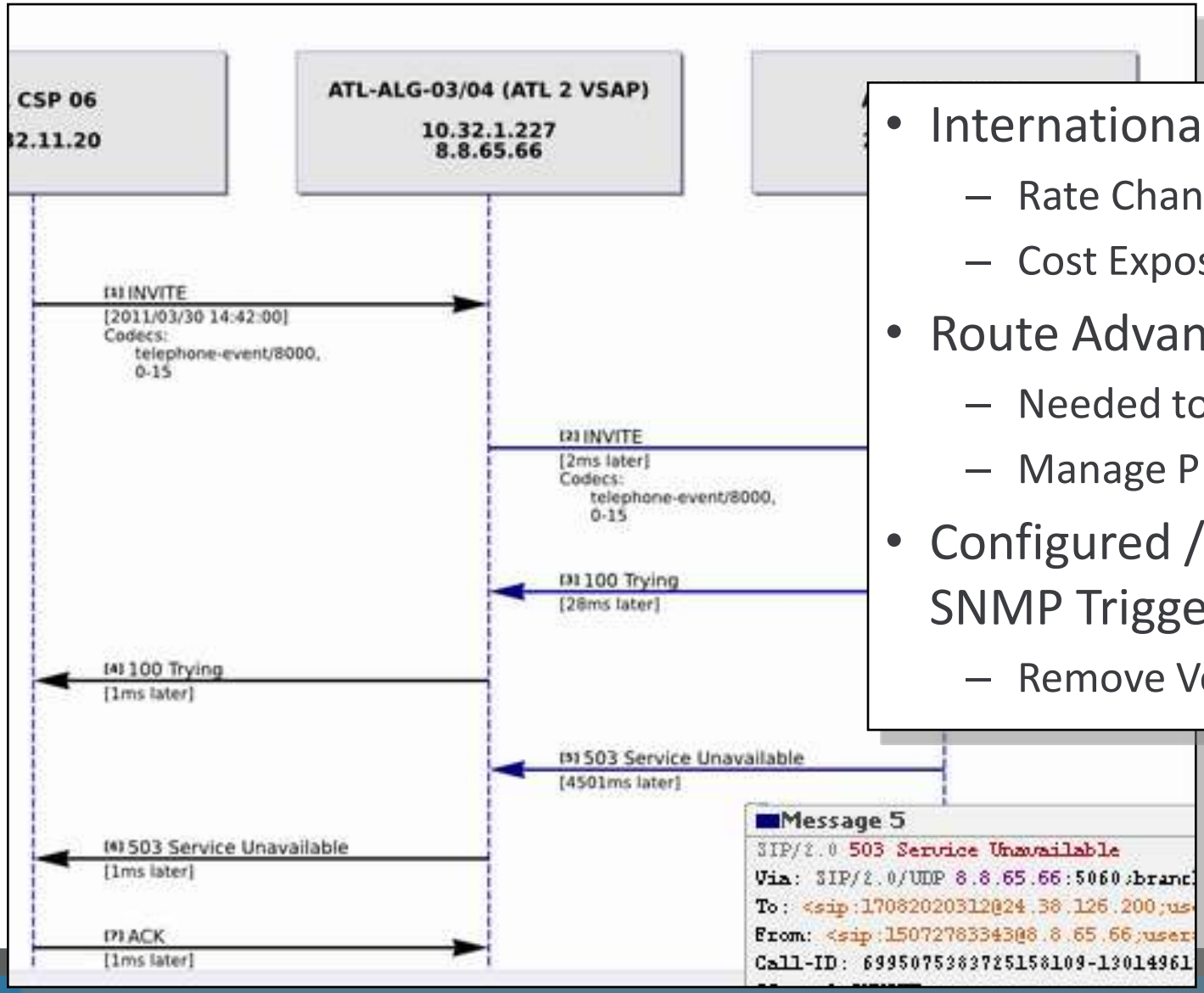
- Re-Design of Key Customer Inter-Connectivity
  - Larger volume customers
  - Engaged in TDM to SIP migration efforts themselves.
- Tool/Dashboard Enhancement
  - Most seemed suitable for Enterprise volumes/applications.
  - Other tools/approaches seemed to require separate “CDR crunching”.
  - Not “ Real-Time”.
- Enhance Network Operations Interaction with Business Side
  - International Traffic.
  - Customer Turn-up, feathering of traffic.
  - New Vendor Introductions.
  - Vendor Management: Business Side, Network/Performance.

Key Customer Interconnectivity:



Mitigate Effects of WAN Hits:

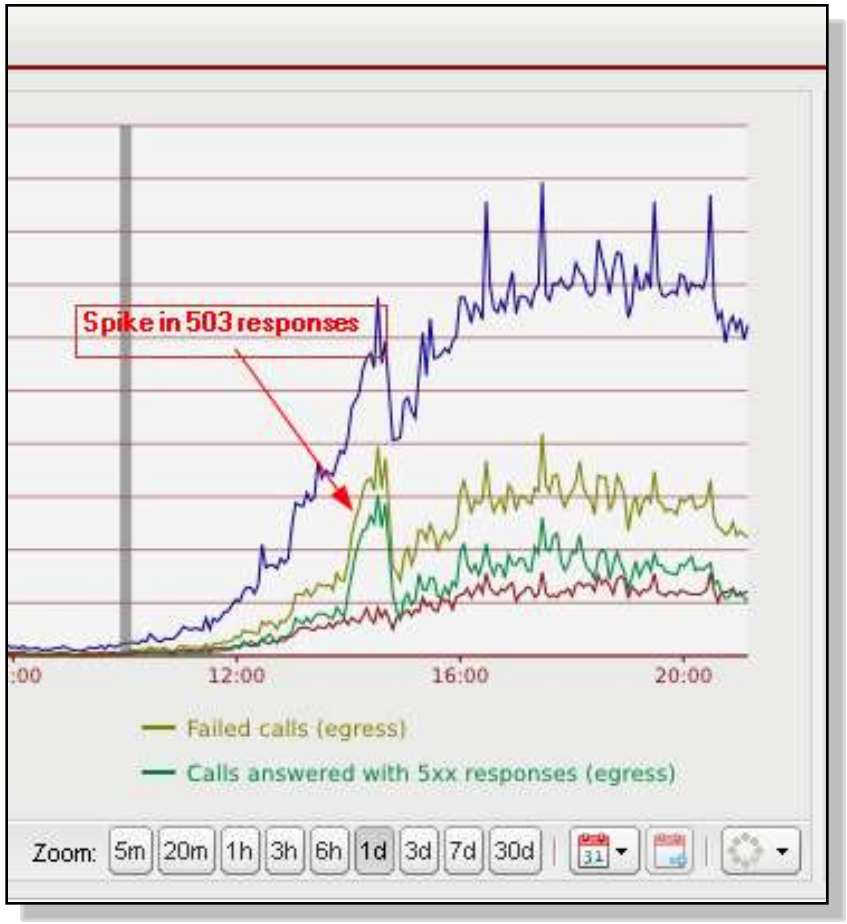
Vendor Management:



- International Egress Vendors
  - Rate Change Games.
  - Cost Exposure..
- Route Advance
  - Needed to Re-Vamp.
  - Manage PDD.
- Configured / Deployed SNMP Triggers
  - Remove Vendors from Route.

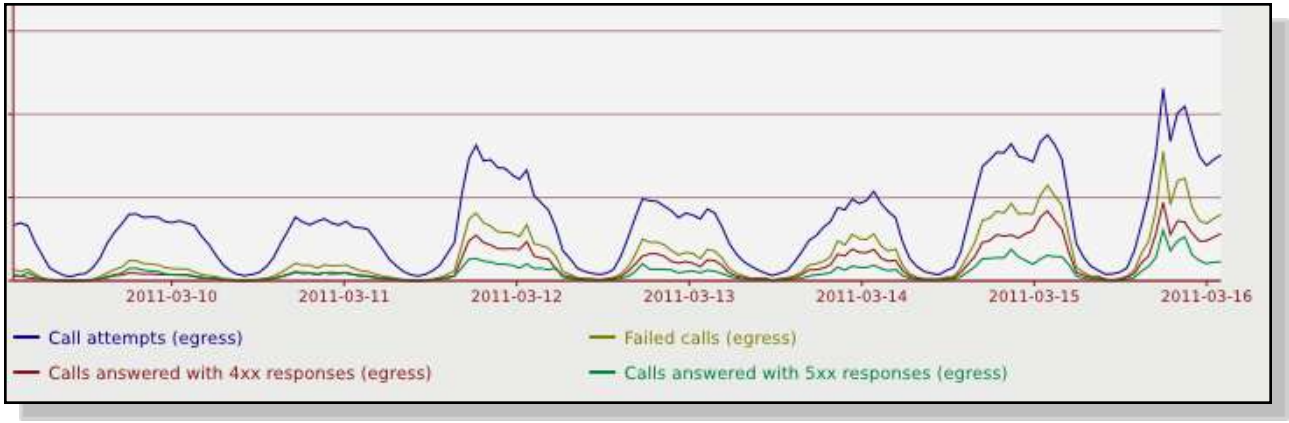
Vendor Route Visibility:

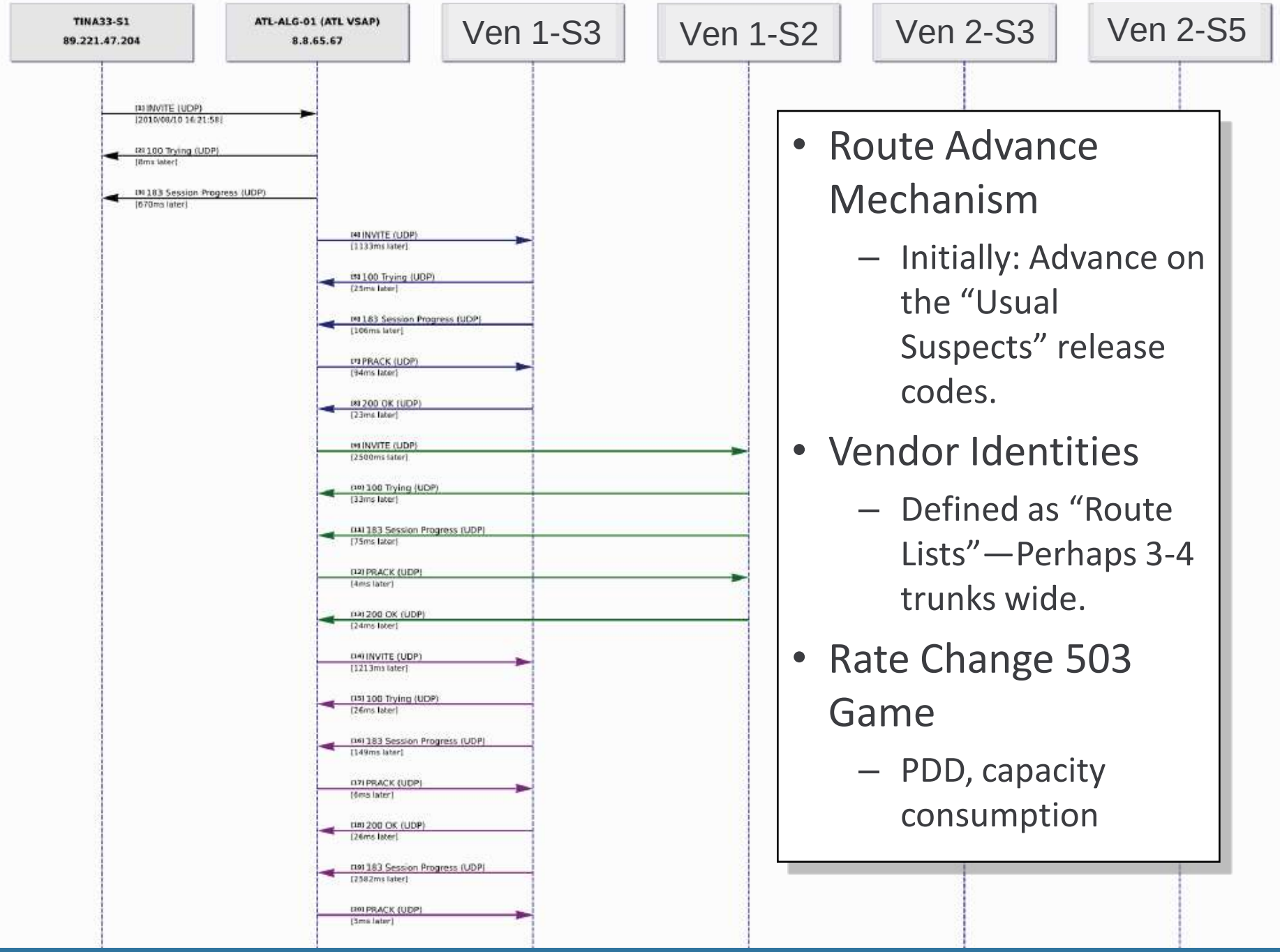
- More than Dashboard
  - Trending-Alarming-Filtering-Drilldown-----Crash-cart.
- Customer Traffic Trends
  - Perspective of WAN hits
  - Call-Flow Analysis
- Effective Vendor Management
  - System level
  - Bumps on 503's if routes go down.
  - Reporting



Vendor Feathering:

- Route Lift
  - Favor Vendor for additional traffic.
- Uptick in 4xx 5xx
  - Bumps on 487s.
- Capacity Issues
  - Their Routes
- Example Breakouts
  - 509 Nxx

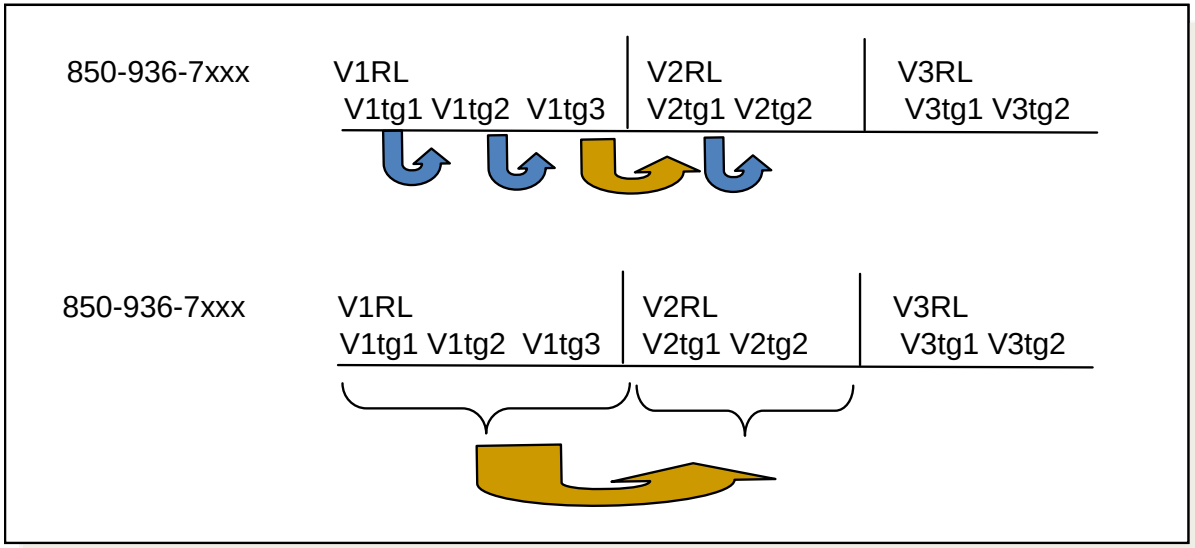




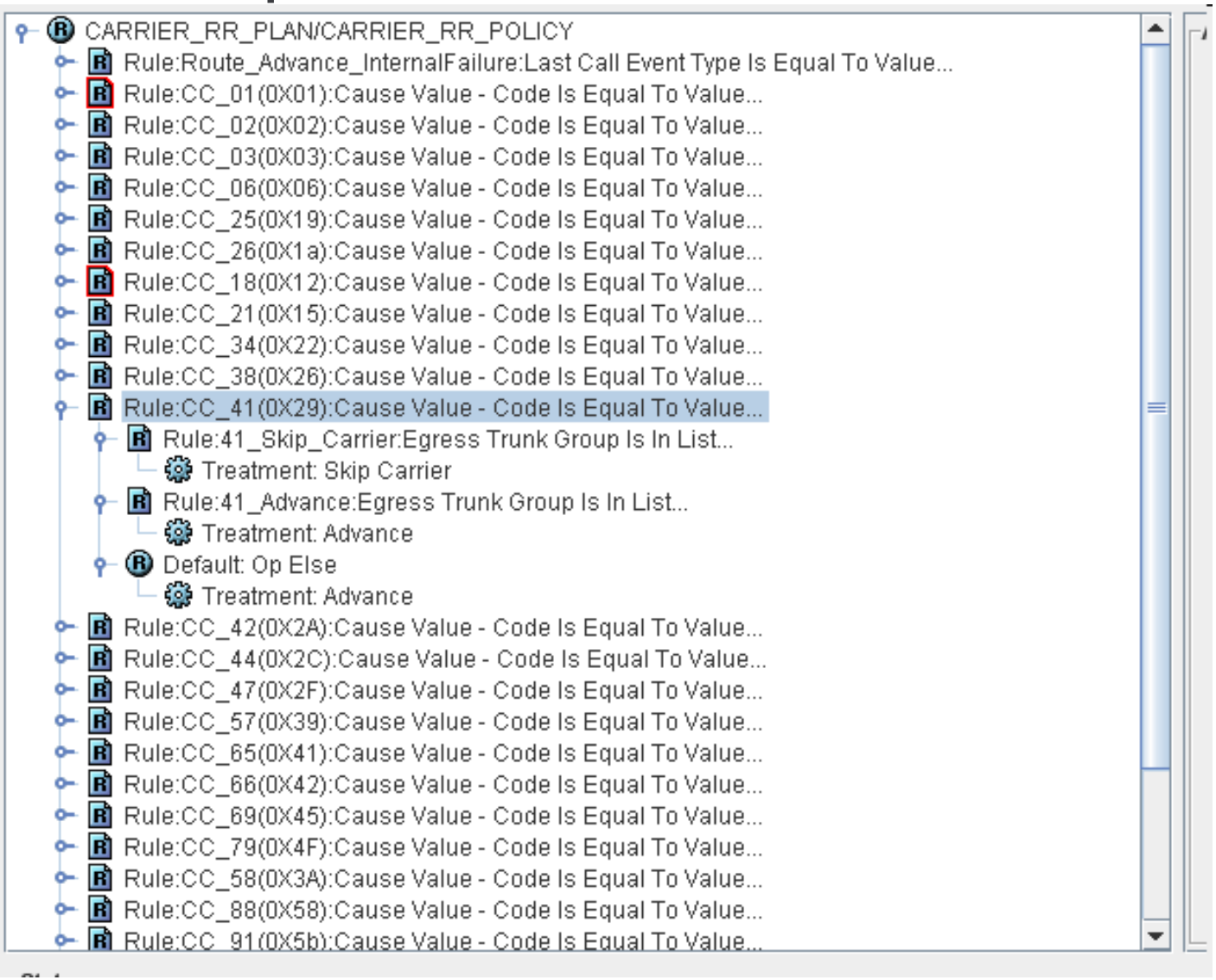
- Route Advance Mechanism
  - Initially: Advance on the “Usual Suspects” release codes.
- Vendor Identities
  - Defined as “Route Lists”—Perhaps 3-4 trunks wide.
- Rate Change 503 Game
  - PDD, capacity consumption

Route Advance Re-tooling:

- Complete Re-design-”Skip Carrier” Logic Employed
  - Vendor trunk issues vs. Vendor Routes
  - Separate logic for all the release codes
  - Facilitates application by Vendor of Advance or Skip

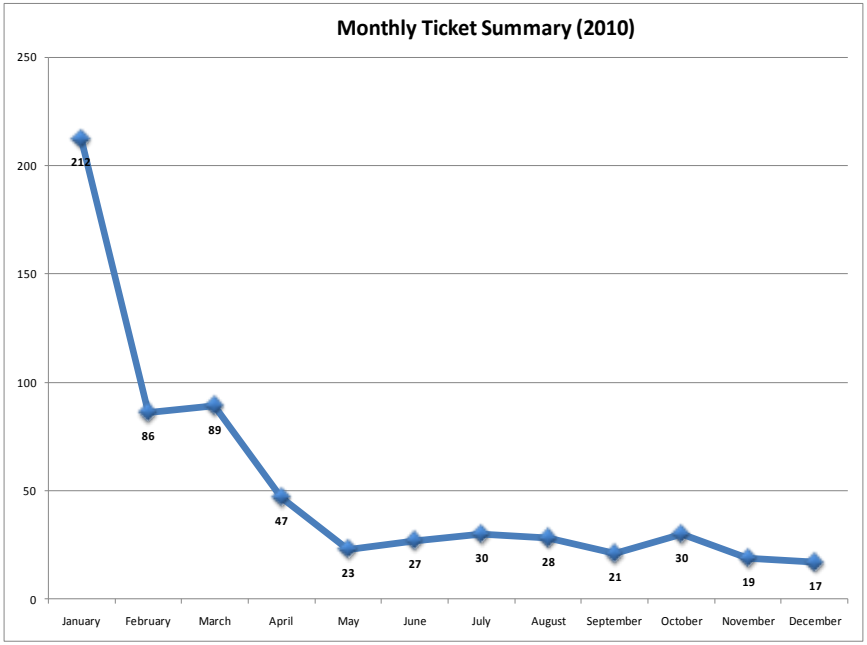


“Skip Carrier” Illustration:



Network / Business Interaction:

- Various Process/Interaction mechanisms
- Business
  - Destination trending/performance
  - Routing / LCR.
  - “Holiday Route Lists”
- Network Operations
  - Vendor: Integrated into certification.
  - Reports: Surveillance trips or network anomalies.
  - Customers: Dashboards of New Traffic Patterns.



Overall Efforts Resulted in: Significant Decrease in Trouble Tickets