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IEEE 1588 Grand Master Clock Engineering and Deployment Strategies

What Does It Mean To Improve Network Synchronization In An Ethernet Real-time DATA Network?

Carrier Interconnection Consultants

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Solution Providers

- Provide comparison of Four manufactures producing core clock with client image and industry adoption.
- Develop Cost to deploy in network the Bill of Materials to the solution strategies
- Client provides the leadership, the F in EF&I and acceptance process.
- Telco Planning provides the qualified components and specifications.
- Telco Planning provides the E&I of EF&I along with the Training.
- The three – way solution provides the improved network implementation.

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1588 Grand Master Clock

- A New Technology with Nano Second Synchronization Capabilities.
- What value does this have?
- Engineering, Furnish & Install (EF&I)
- Cost and Planning Requirements.
- Is this a real solution?
- Will the solution impact customer experience?

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A Complete Network Consideration

- Grand Master Clock IEEE 1588 Concept

- Evaluation of Network Impact

- Planning the Adoption

- Engineering the Solution

- Deployment Strategy, Plan

- Refine installation.

Concept

- Description – of real uses.
- Standards – IEEE 1588
- Specifications – IETF, CableLabs, ATIS
- Patents – Primary and Licensees
- Adoptions – Where and What expects to use 1588 Grand Master Clock
- Implementation – Concepts
- Networks and Vendors.

Evaluation

- DATA Sync'd networks will perform as well as SONET/SDH?

- The SONET overhead impact is not the same for Ethernet.

- 1588 is a solution for Ethernet networks but also improves 10 and 27 mHz network reference clocks.

- Network Operations will improve response to SLA compliance.

- Manufactured equipment is ready to prototype in the network.

- Test equipment is developing to prove the solutions.

Planning for the Improvements

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- 1588 Components in the Network include a new Reference Clock source and assignment of clients.
- Carrier Grade Protocol Specifications, not new protocols.
- Coding applications and devices to use the new clock resolutions contained in the Specifications.
- How Fast Sync and Mooshing will be handled.
- Who the vendor are.
- Define network interconnection to competitors and clients.
- Paying for the network upgrade.

Engineering the Network

- Identify impacted Network Elements.
- Identifies and modifies network design data for circuits and applications.
- Specifies the NOC threshold Data-fills into Telemetry applications.
- Generates the business practices to support the network improvement.

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Deployment

- Coordinates purchasing and delivery of equipment and applications.

- Meets Engineering phased coordination of Source and Client equipment integration to existing network elements.

- Installs the equipment.

- Configures the equipment with the thresholds, fail-overs and registrations.

- Develops training including work-flow and NOC responses.

- Identifies Spares and Support.

Refinements and Follow-up

- Confirms network performance improvements.
- Advises on the implementations to maturity of the design and industry practices.
- Identifies and corrects marginal operations.
- Analyzes trouble reports to provide solutions.