

The Why and How To of BITS Clock Replacement

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Why Synchronization?



- Network synchronization is critical for the reliable transport and delivery of narrowband, and more importantly, new broadband services.
- A robust sync infrastructure is a critical component of overall network reliability.

Why Upgrade?



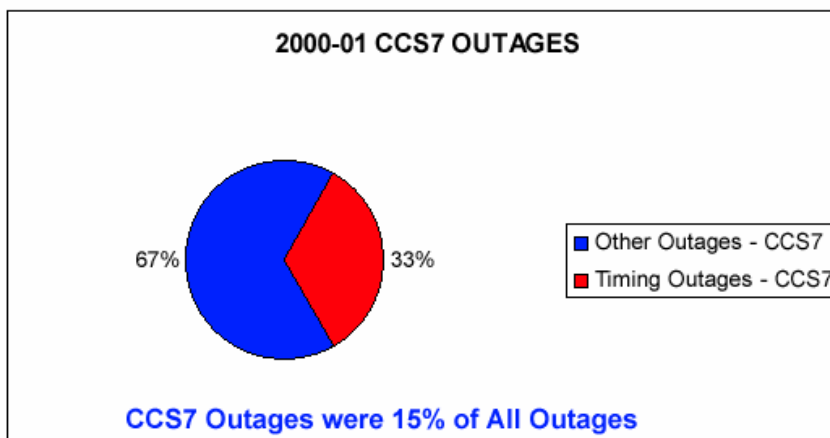
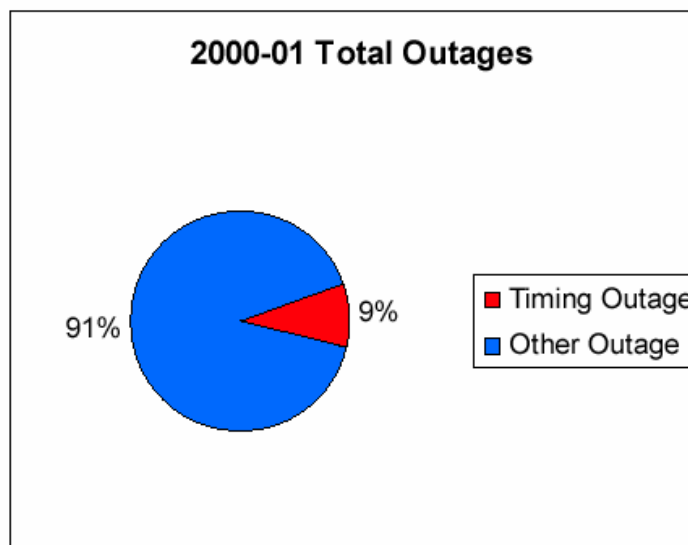
- Recent field audits in many telcos have uncovered issue in the area of sync wiring to network elements, grounding, and the stable performance of legacy BITS clock systems.

Products		A&M	MD	EOL	Replacement
PRS	DCD-LPR	June 2003	July 2004	July 2009	TimeSource
	PRR-10	June 2004	July 2005	July 2010	TimeCesium
	PRS-50	July 2004	Dec 2004	Dec 2009	
SSU	DCD-400*	May 2003	Nov 2003	May 2008	SSU-2000 and TimeProvider
	TSG-3800	Sept 2004	April 2006	April 2011	
	DCD-519/523	Sept 2005	Sept 2006	Sept 2011	

Why Upgrade?



**9.4% of all
Outages were
from Timing
Outages**



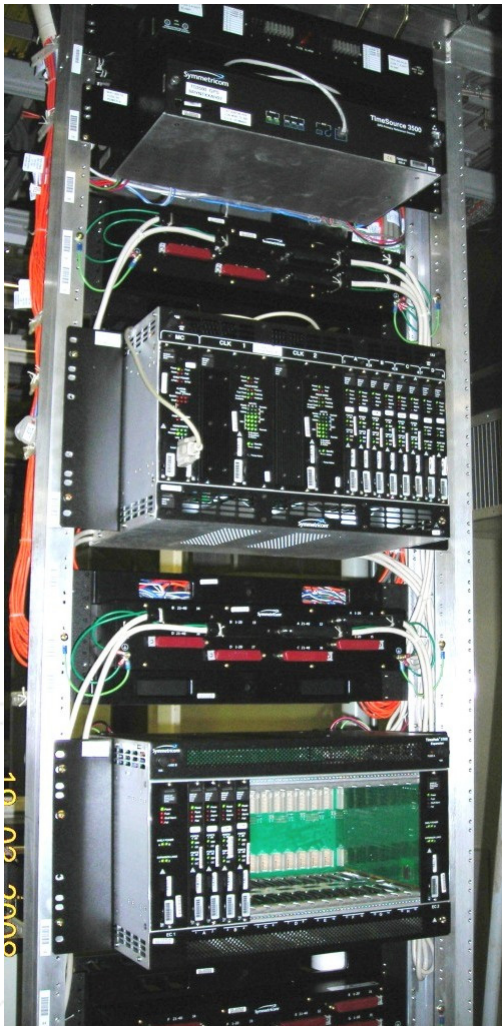
**33% of all
CCS7
Outages
were Timing
Outages**

- Timing Audit – existing and future needs
- Define Requirements – equipment & services
- Install Equipment – BITS, antenna, etc.
- Cutover to new BITS – in service
- Cutover Report – Timing Leads
- Operator Training – hardware & software
- Continuing Support

- ▶ Timing Audit to:
 - Identify existing timing equipment and connections to network elements
 - Identify additional and future timing needs
 - Determine the most suitable clock for the job
 - Determine the best method of procedure for upgrading the office timing

- ▶ Provide Quotes for equipment and services
 - Symmetricom BITS Clocks
 - TimeHub, TimeProvider, TimeSource, Synchronization Supply Unit, etc.
 - Equipment Installation Service
 - BITS, PRS, GPS Antenna, Wiring, Power, etc.
 - Cutover Services
 - Retime all network elements from new clock without interruption of service

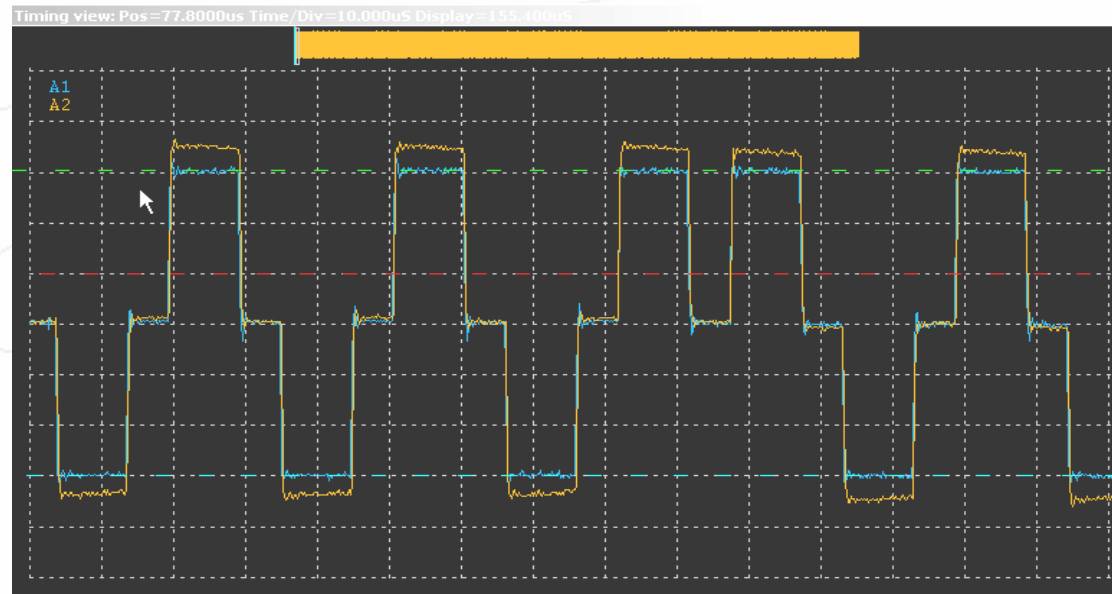
Replacement Process – Equipment Installation



Replacement Process – Cutover Procedure



- ▶ Several Option Available:
 - New install
 - Hot slide
 - Rewire office
 - Swing existing cables
 - “Y” cables



- ▶ Report on all activities
 - List of equipment settings
 - Photos of installations
- ▶ Complete office timing records
 - Trace all existing timing leads
 - Identify all equipment needing timing
 - Identify timed equipment
 - Type, Bay, Shelf, Connections, CLEI codes
 - Provide detailed list of all timing

Training

- ▶ Equipment Training – Operation & Maintenance
- ▶ Application software usage
- ▶ Basic Synchronization training

S U P P O R T

- ▶ Maintenance Contracts
 - Telephone support
 - On-site services
- ▶ Extended Warranty Programs
- ▶ Engineering Services

Summary



- ▶ Timing is the heart beat of your network
- ▶ Now is the time to put into action a plan to protect your network and prepare for future timing requirements
- ▶ The replacement process has been proven
- ▶ Symmetricom is equipped to support your replacement program