

# Paper Session I: Implementations of OSC

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# Current OSC Implementations

- CPS
- Csound
- EyesWeb platform
- Grainwave
- HTM
- Intakt
- Java
- Kroonde
- Macromedia Director
- Macromedia Flash
- Max/MSP
- Objective C
- Open Sound World
- Pd
- Perl
- PHP
- Picker
- Python
- Reaktor
- RTMix
- Sodaconstructor
- SpinOSC
- Squeak (via Siren)
- SuperCollider
- "The Toaster" (hardware)
- Traktor
- VisualWorks Smalltalk

# Anatomy of an OSC Implementation

<i>Feature</i>	<i>Send</i>	<i>Receive</i>
Move Packets	Interface to Network Services	
Addresses	Build a string like “/foo/bar”  (OSC-string padding)	(parse) Construct address tree Dynamically change it Dispatching in it Pattern Matching
Arguments	Interface to type system; Network byte order	
Bundles	Group messages	(parse) Atomicity
Time Tags	Know current absolute time	
	Specify future times	Scheduler
Queries	Keep track of pending answer(s)	Format + address answer (multithreading)

# Incomplete Implementations

- Many implementations are incomplete
- They're still useful
- E.g., many are send-only: useful for making interfaces
- E.g., most don't implement time tags, so messages take effect when received
- CNMAT and the developer's email list can help make implementations more complete

# Notable Implementations: Open Sound World (“OSW”)

- Graphical dataflow programming model
  - Automatically generates OSC address space from the nesting structure
- Rich support for queries

# Notable Implementations: SuperCollider

- Very early adoption of OSC (1998)
- Pioneered type tags
- Many interesting msgs. to SC environment itself (“play a sound file”, “run this code”...)
- Implements queries and NTP sync
- Prog. lang. client/DSP Server architecture
  - Ultra-lightweight OSC between them

# Notable Implementations: flosc

- OSC for Macromedia Flash
- Enables slick animated web front-ends to sound control
- Implementation based on XML