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ANSA Phase III

DIMMA overview (presentation)

Dave Otway

Abstract

Edited highlights from the February 95 TC work in progress presentation APM.1415: "ODP C++ API" with an introductory slide from APM.1399: "DIMMA BNR presentation" characterising the ANSA approach to multi-media and real-time.

This presentation exists as a separate document solely to get the slide numbers in sequence.

APM.1439.02

Approved
Briefing Note

12th April 1995

Distribution:

Supersedes:

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Distributed Interactive Multi-Media Architecture (Overview)

Dave Otway

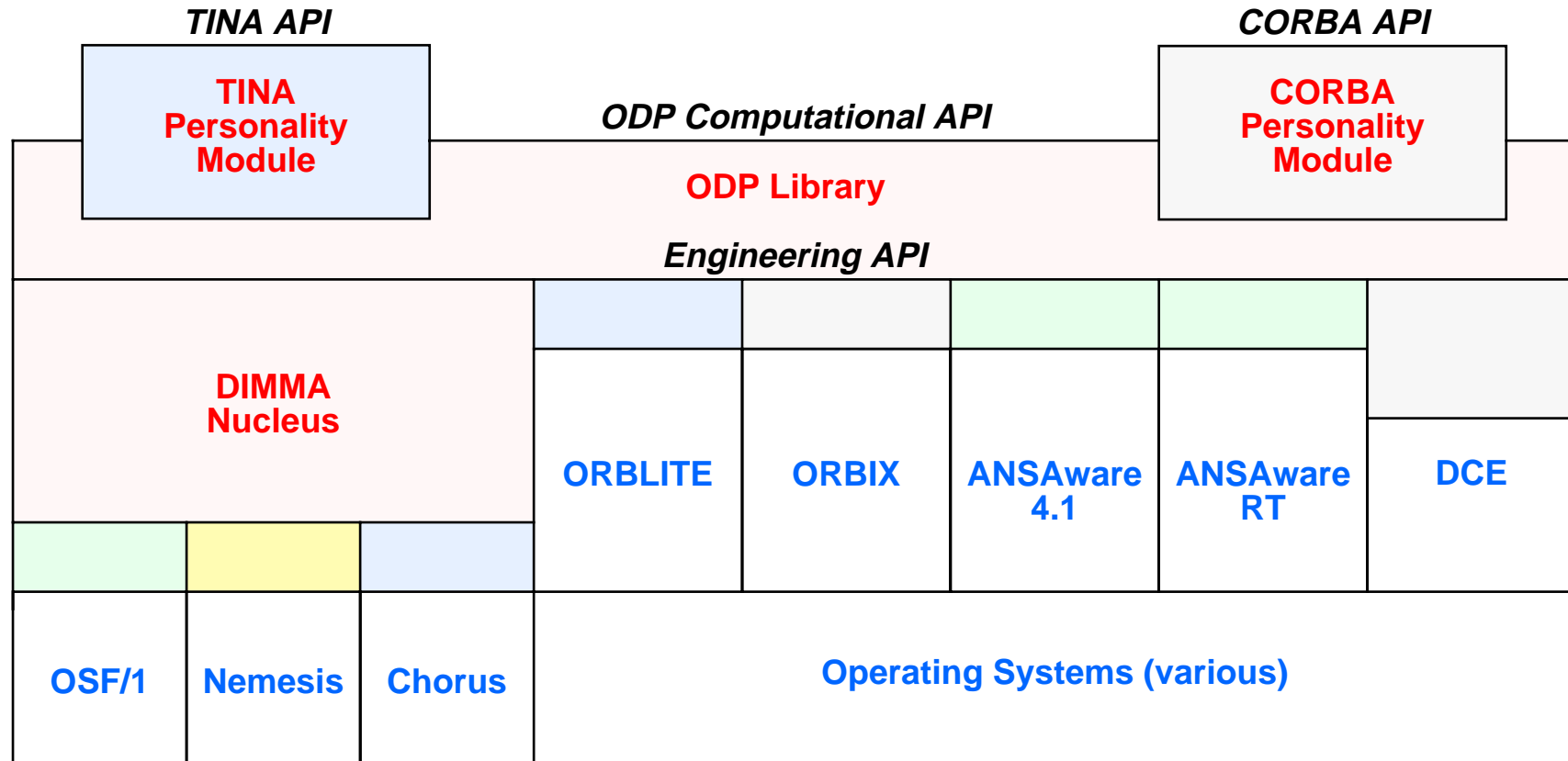


Design for multimedia and real-time processing

- **interaction models:** client/server (many-to-one) + streams
- **invocation models:** call/reply (RPC) + signals (message passing)
- **control model:** asynchronous + synchronous programming
- **binding model:** implicit + explicit
- **QoS model:** addresses non-functional requirements
- **scheduling model:** resource separation, priority & deadlines



API & DPE Master Plan



Generic
 Phase III
 RETINA
 DCAN
 ?

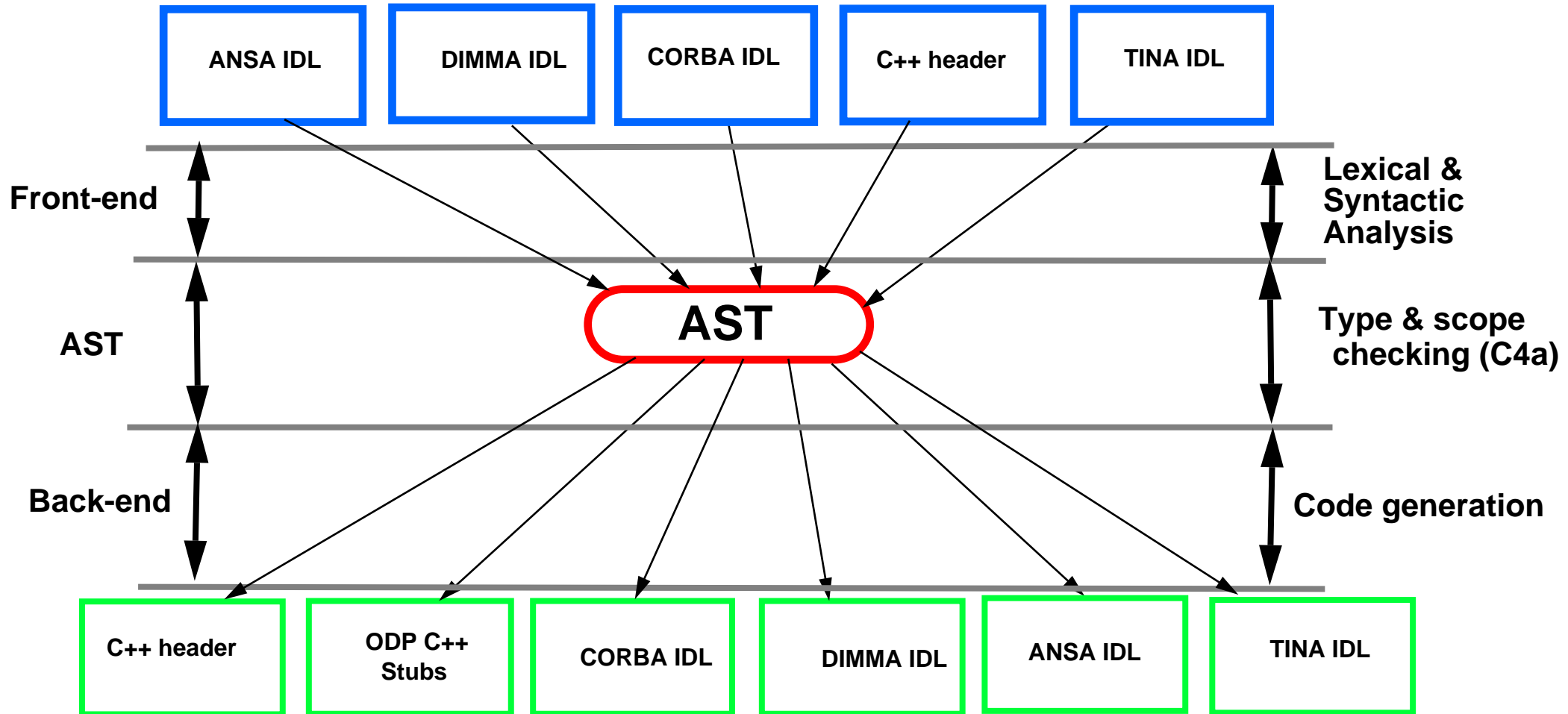


Computational API

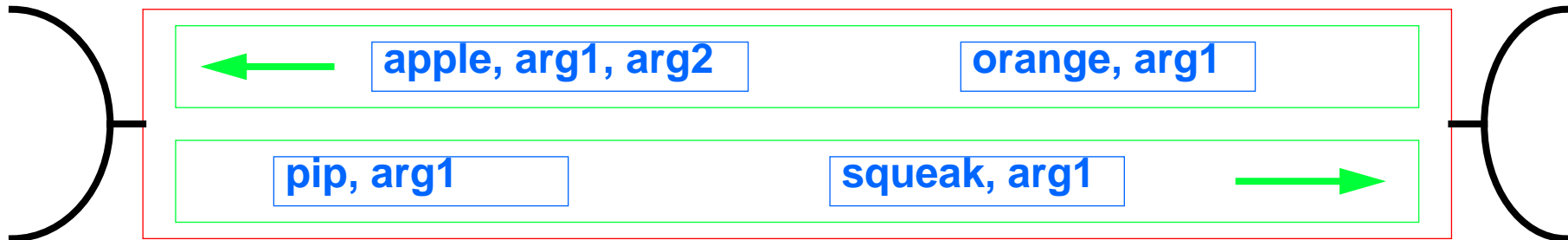
- **Stage 1: objects**
 - (operational) interfaces
 - multiple results
 - basic types
 - the type “Any”
 - (operational) signatures
 - invocation references
 - named terminations
 - local garbage collection
 - (hand coded) trader client stub
- **stage 2: structured types, threads, service withdrawal**
 - **stage 3: explicit binding, QoS, streams, synchronous programming**
 - **stage 4: preprocessor**



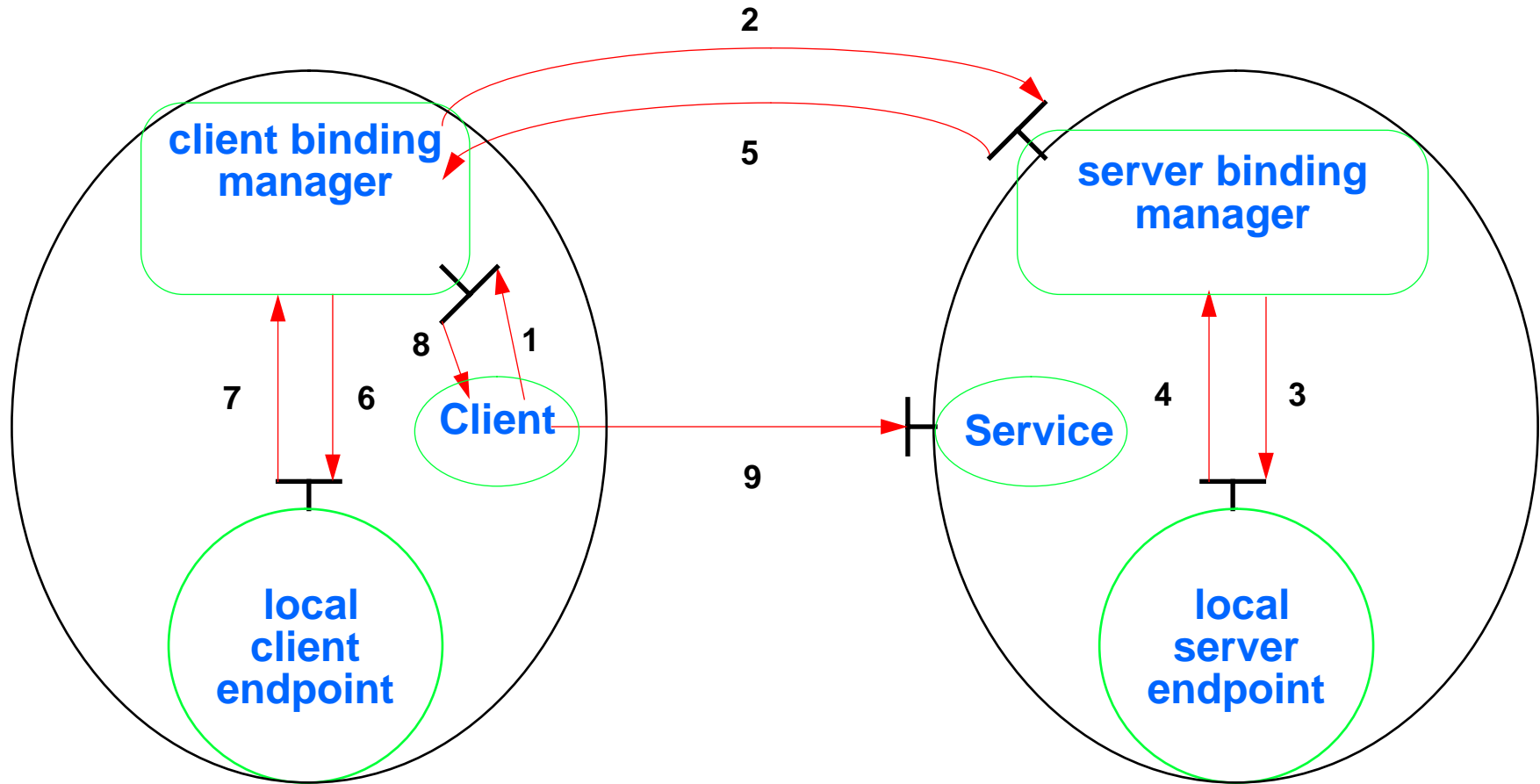
IDL Master Plan



Streams



- A stream has a set of flows
- A flow has a set of frames (or signals) and a direction
- A frame has a name and a set of typed arguments
- Streams are typed and can be conformance type checked
- Frames are transmitted by non-blocking writes and read by blocking reads





Reading list

- APM.1108: Streams and Signals**
- APM.1207: ANSAware/RT 1.0: programming and system overview**
- APM.1222: Some engineering aspects of real-time**
- APM.1239: The ANSA Binding Model**
- APM.1295 An Overview of the Distributed Interactive Multi-Media Architecture**
- APM.1415: ODP C++ API (slides)**
- APM.1423: A generic communication framework (slides)**