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ANSA Phase III

Technical Work and Results 1994-1995

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Abstract

A description of the 1994-5 ANSA Workplan and Results for presentation to Fujitsu Laboratories, September 1995.

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TECHNICAL WORK AND RESULTS 1994-5

**PRESENTATION TO
FUJITSU LABORATORIES**

SEPTEMBER 1995

ANDREW HERBERT



STRUCTURE OF THIS PRESENTATION

- ***Objectives***
 - **Vision, scenario, focus, architecture**

- ***Architecture***

- ***Results***
 - **Information services results**
 - **Infrastructure results**
 - **Federation results**
 - **Standards results**



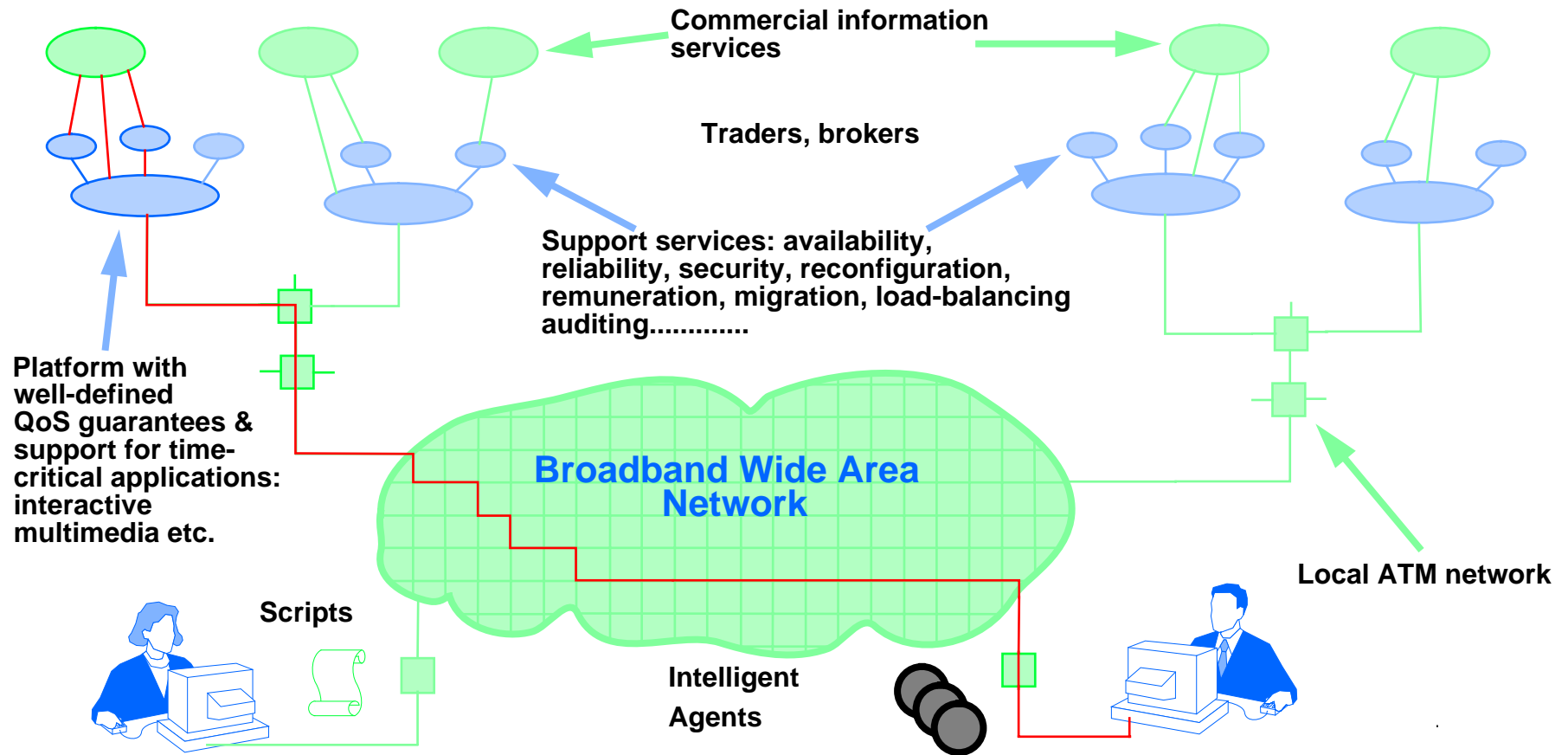
1: OBJECTIVES



ANSA VISION 1994-5

- *World of consumer and business oriented electronic services on public, open networks*
- *Needs means to PROVIDE, DELIVER and MANAGE services EFFECTIVELY*
- *Requires system integration across*
 - open information networks (e.g. Internet and its emergent electronic market place)
 - desktops and work groups (e.g. compound documents and workflow)
 - broadband resource managed networks (e.g. ATM)
 - interactive multi-media
 - databases
 - embedded systems (e.g. cars, healthcare)
- *Need consensus interfaces between the network and electronic services*
 - none of OLE, FTP, SS7, DCE or CORBA is sufficient
- *Managed, federated distributed object computing is the key to this vision*

ANSA SCENARIO 1994-5



ANSA FOCUS 1994-5

**Public electronic
commerce and
information services**



**Explore,
animate,
scenarios**

**Distributed control
and management of
information networks**



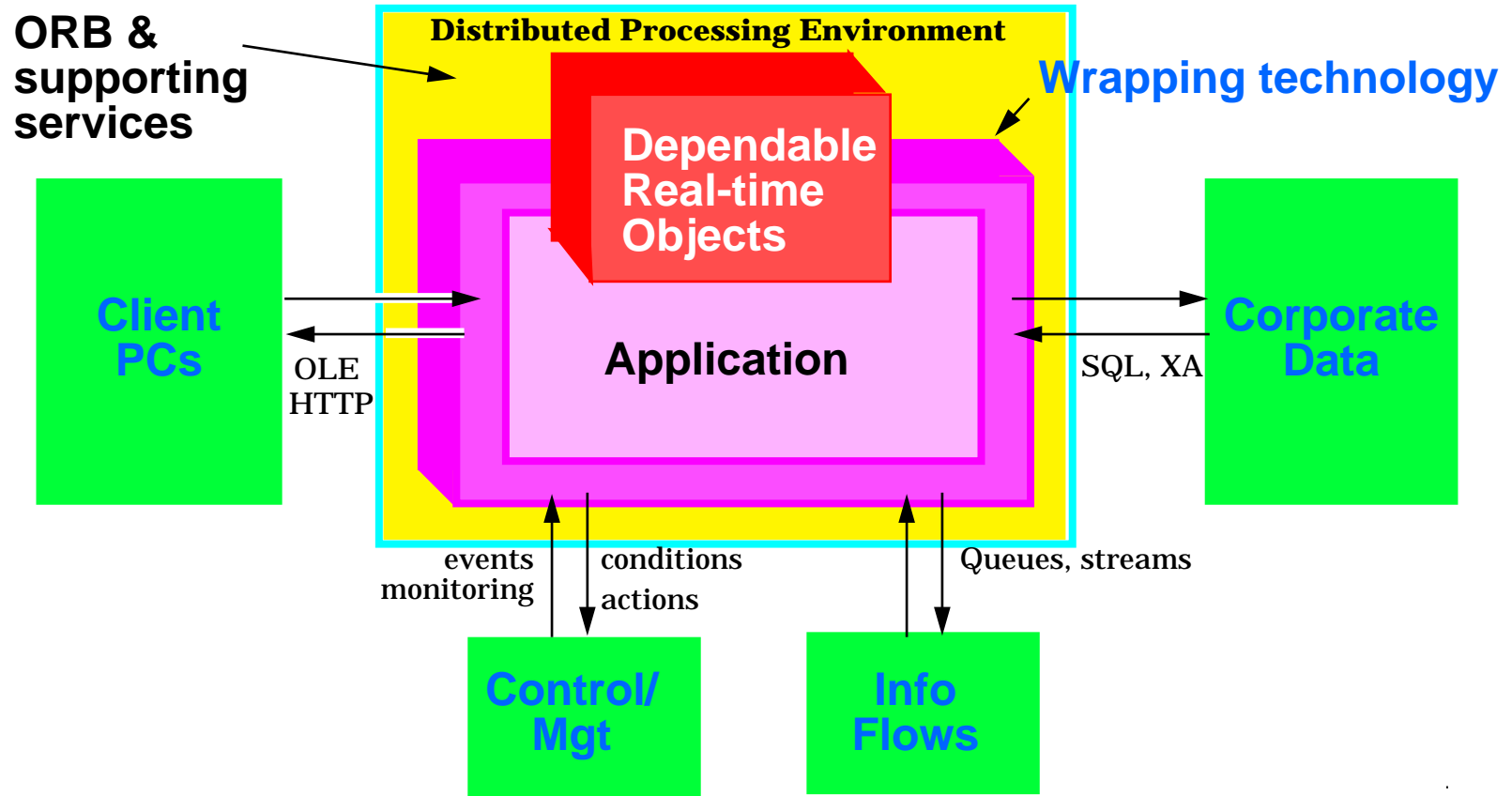
**Prototype,
extend,
validate**



2: ARCHITECTURE

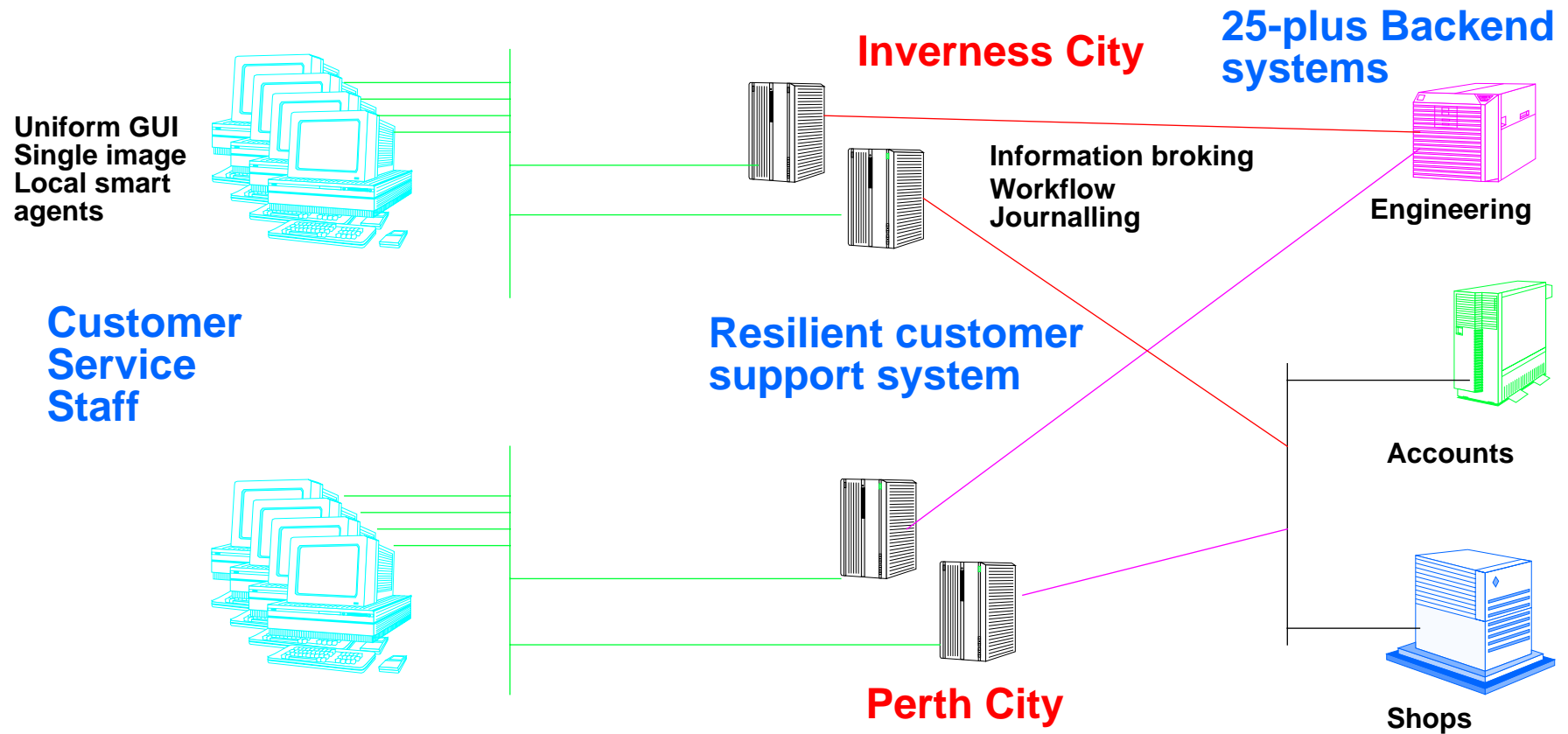


ARCHITECTURAL STRUCTURE (ANSA)





EXAMPLE APPLICATION OF ANSA - SCOTTISH HYDRO





3: RESULTS



APPLYING ANSA TO INFORMATION SERVICES

- ***ANSAWeb 1*** ***Code & documentation***
 - Use CORBA technology to build WWW servers
 - Automation reduces development time
 - Enable WWW access to CORBA-based applications
- ***Changeling: Script-based Web server*** ***Code & documentation***
 - Upload / down load a script to / from a Web server -- “mobile” objects
 - Enables customized searching
 - Enables remote management of server
 - Java and HotJava experiments
- ***ANSAWeb 2 (alpha release)*** ***Code and WWW Conference Paper***
 - Re-engineer the WWW using CORBA IDL and interoperability protocol
 - Better performance, upwards compatible
 - Better integration, interoperability, modularity and extensibility



APPLYING ANSA TO DISTRIBUTED CONTROL OF INFORMATION NETWORKS

- ***Distributed Interactive Multi-media Architecture (DIMMA)***
Architecture Reports
 - **Extend ANSA with support for real-time resource scheduling**
 - **Threads, Communication channels, Buffers**
 - **Extend ANSA with support for multimedia communications**
 - **Streams and signals**
 - **Extend ANSA with support for predictable software timing**
 - **Synchronous programming**

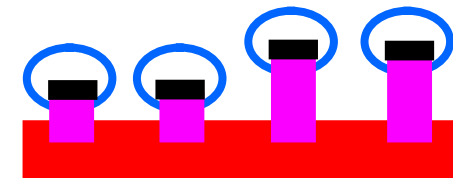
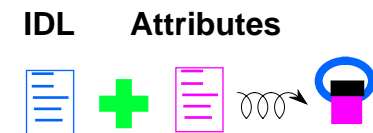
- ***ANSAware /RT***
Code & Documentation
 - **An ORB and supporting services with real-time capabilities**
 - **Tested over several real-time and micro-kernel operating systems**
 - **Enables application control over resources and scheduling**



DIMMA PROTOTYPE

Snapshot & Documentation

- **C++ Application Interface**
- hide engineering detail, maximize compile time checking
- **Abstract Syntax Tree Tools**
- type checker, stub generator
- makes stubs independent of IDL and / or protocol stack
- **Frame work ORB**
- ready for real-time capabilities and multi-media streams
- modular, lightweight, extensible
- IIOP for CORBA interoperability



APPLYING ANSA TO FEDERATION

- *Bridging between heterogeneous systems - “Interception”*
- *Architecture Reports*
 - “Federation and Interoperability”
 - “Interoperability and Platform Design”
- *Trader / ANSAware to Matchmaker / Orbix example*
 - Code and documentation
 - Demonstrates automation of interceptor management
- *Input to CORBA 2.0 Interoperability standard*

