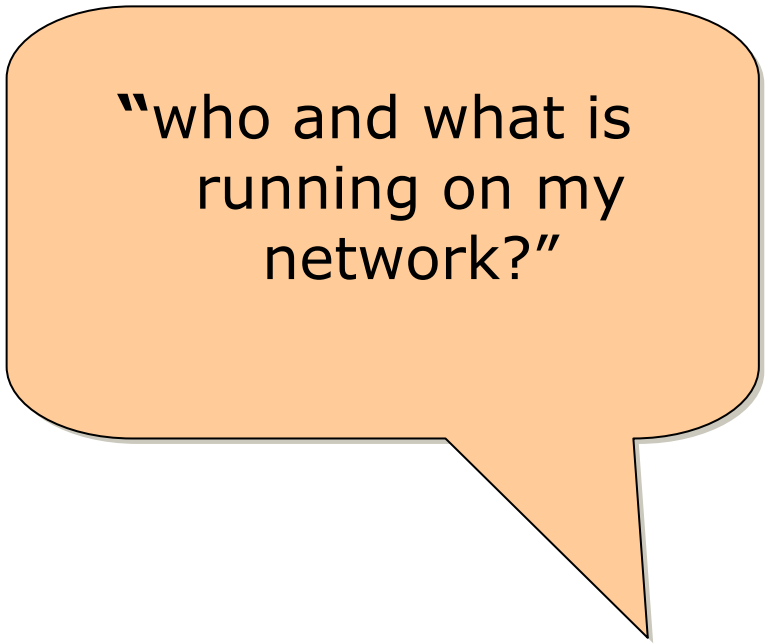
HP IUM Fundamentals

IUM Introduction & Architecture

Introduction

- Why do we need Mediation?

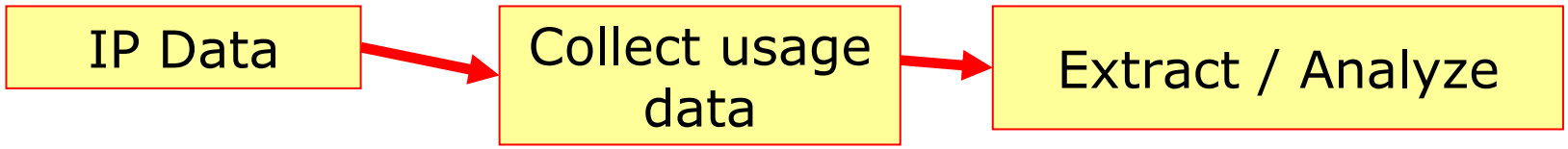


Service Providers

Need to know to run as a business
"how is it done?"
"what does it enable?"

Introduction

- How does Mediaton Work? – IP Data Collection
  - Collection:
    - Huge volumes of varying types of data
    - Huge range of sources of data
    - Geographically dispersed data
  - Extraction:
    - Customer use of infrastructure and content

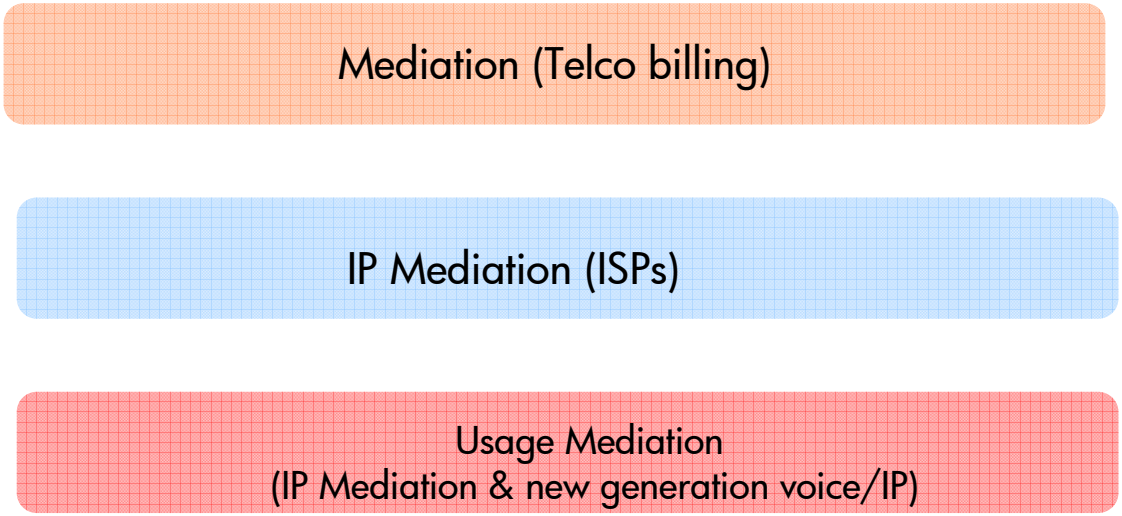


Introduction

- Key Trends
  - Different types of network (2G, 2.5G and 3G)
  - Industry consolidation of Service Providers
  - Convergent Solutions
    - Needs convergent Billing and Mediation
    - Full range of services
    - Hybrid networks

Introduction

- Evolution of Mediation



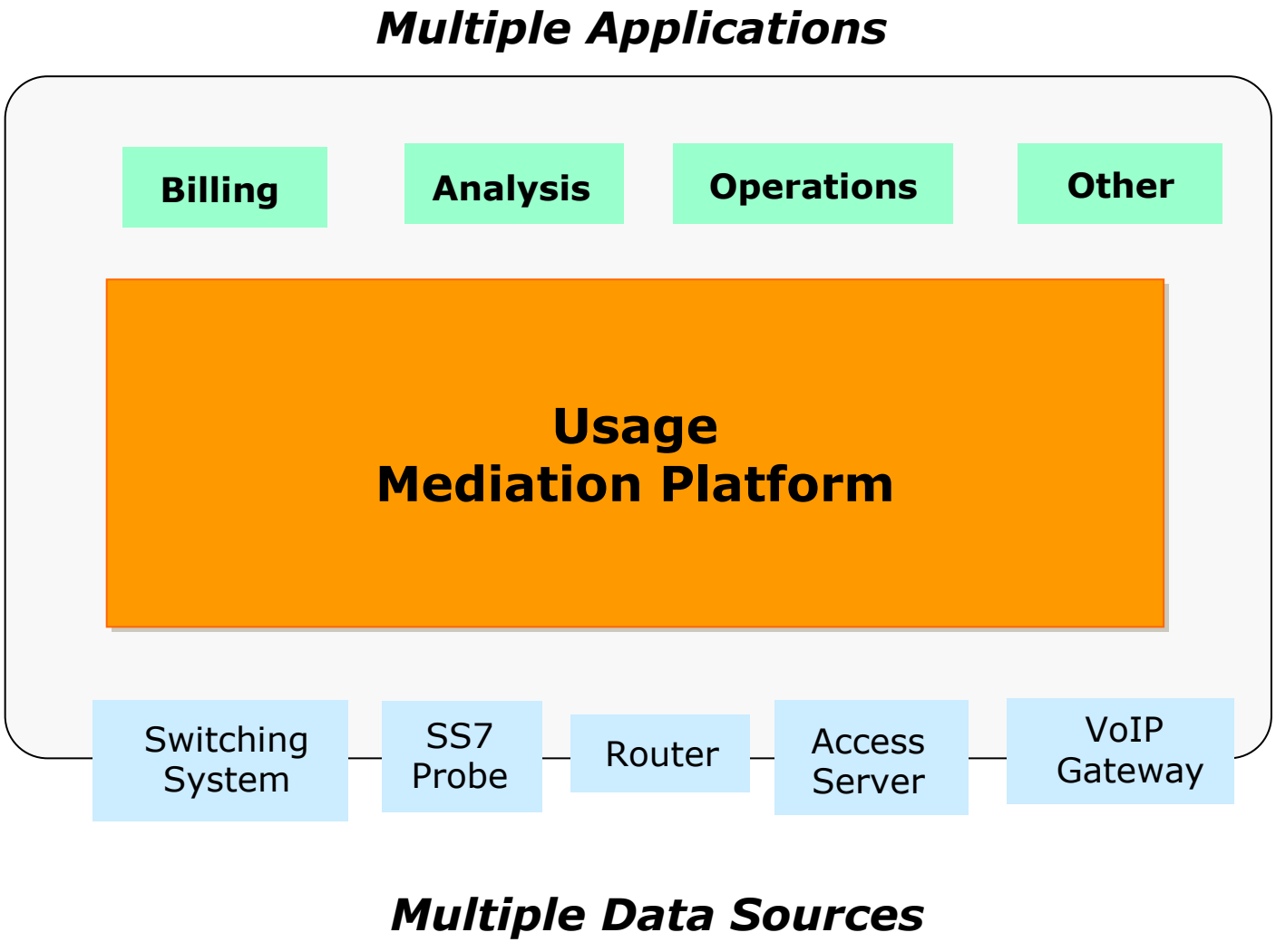
IP and Usage mediation have to overcome:

- Huge volumes of varying types of data
- Huge range of sources of data

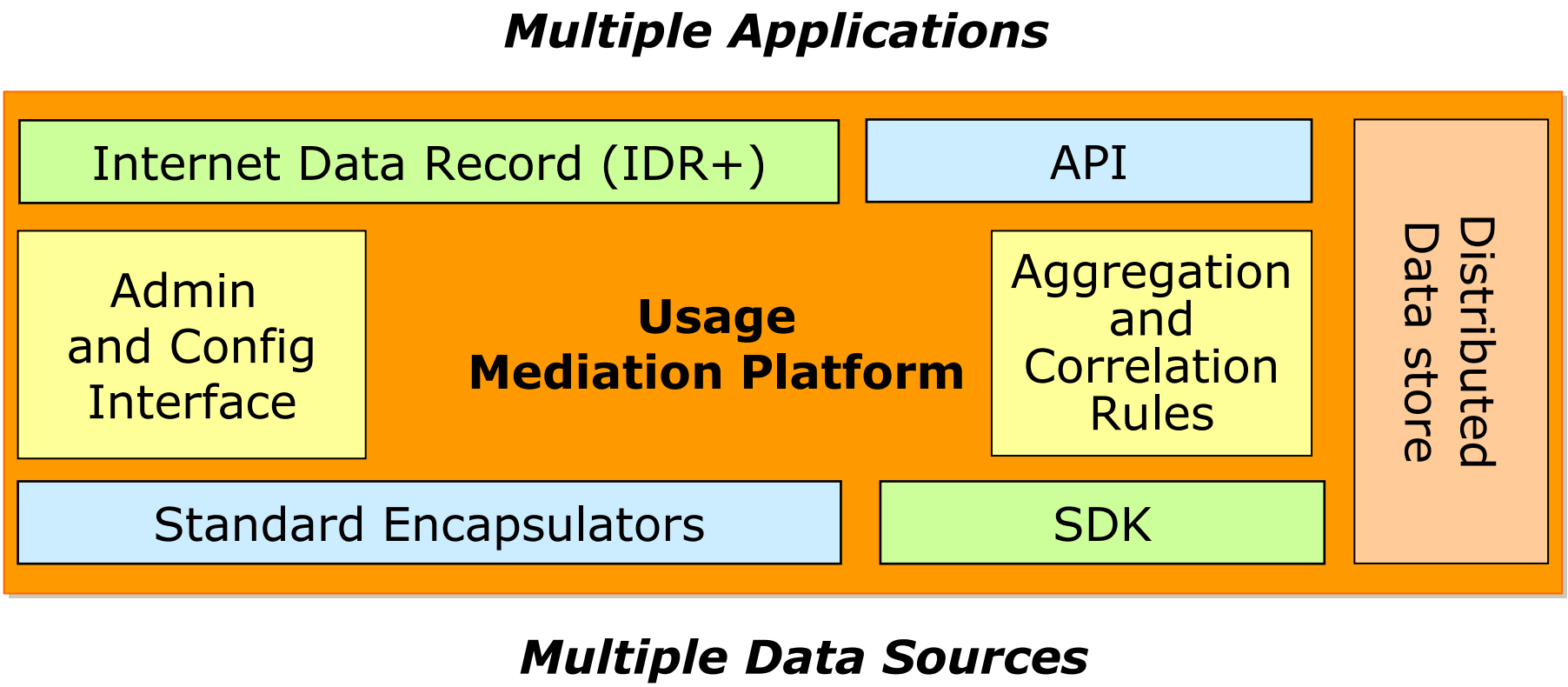
Introduction

- Usage Mediation enables SPs to…
  - Manage profit margins
    - Charge by **usage**, charge by **content**
  - Service differentiation
  - Profile Usage
    - Segment customer base
  - Influence subscriber behaviour
    - Relationship marketing

HP IUM Solution



HP IUM Solution



HP IUM Solution

- HP Internet Usage Manager is the industry's first comprehensive IP usage management platform. IUM "Collects", "Aggregates" and "Correlates" usage data to produce business information

HP IUM Solution

- What types of network data can be used?

  IUM can consume virtually any network data:

  - Level 2/3 network devices - Routers, switches, gateways …
  - Session sources - Network authentication/session services
  - IP services - Email, web hosts, VoIP, VPN, …
  - Other services - SNMP devices, custom sources, …

  - IUM divides Raw Network Data into Usage and Session Data

HP IUM Solution

- What information can be generated?

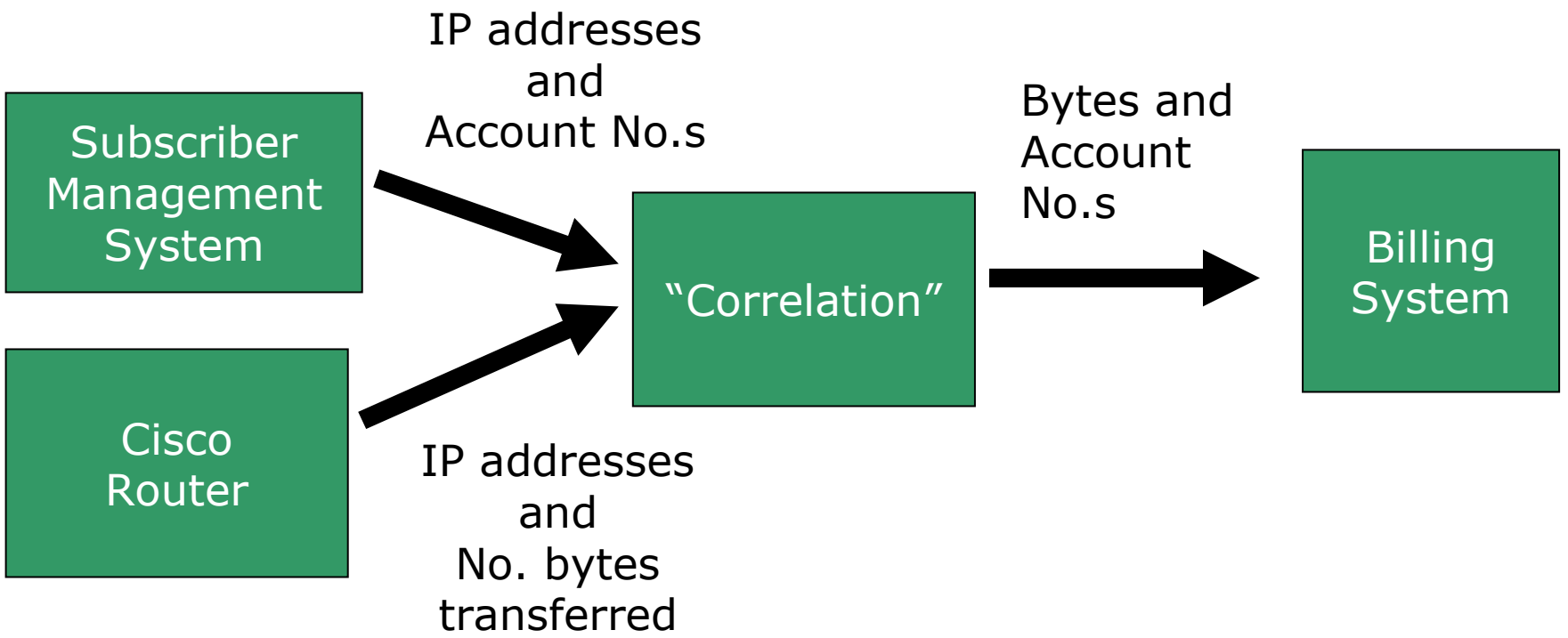
IUM can generate data for virtually any application:

- Billing Systems - Based on usage of resources
- Strategic Marketing - For competitive product positioning
- Capacity Planning - Anticipating subscriber behavior
- Data Mining - For in-depth business intelligence

Use Case Example

- Fixed IP Billing
  - Each Department in an organisation can be billed on the basis of their IP usage. Billing is based on the amount of data generated by an IP address on a subnet in a particular department.
- The following is needed:
  - **Data from** a fixed IP **source** (e.g. Subscriber Management System). Associates dept. IP addresses with billable account numbers.
  - **Data** of network **usage** (e.g. Cisco NetFlow Router). Associates bytes transferred with IP addresses.
  - **Correlation** between network usage data and dept. account number, for billing.
  - **Output** format for transfer to Billing System.

Use Case Example



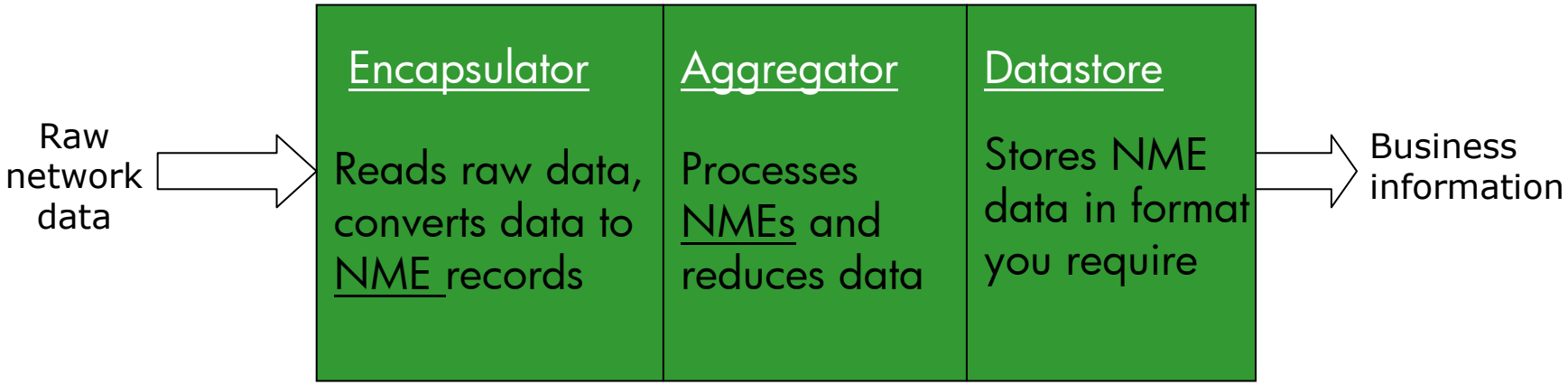
IUM Introduction - Components

- How does IUM **collect** data?

  - Collectors read raw network data from a Data Source, process and store it as business information.
  - You configure the Collector depending on raw network data type and the business information needed.

IUM Introduction - Components

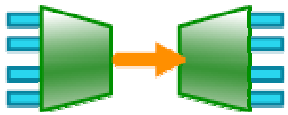
- A collector has three Components:



NME = Normalized Metered Event

IUM Introduction - Components

- File Service
  - The HP Internet Usage Manager (IUM) File Service reads multiple CDR files from multiple devices, typically voice switches but it can be other file sources as well. Thus averting the need to have the same number of collectors as switches

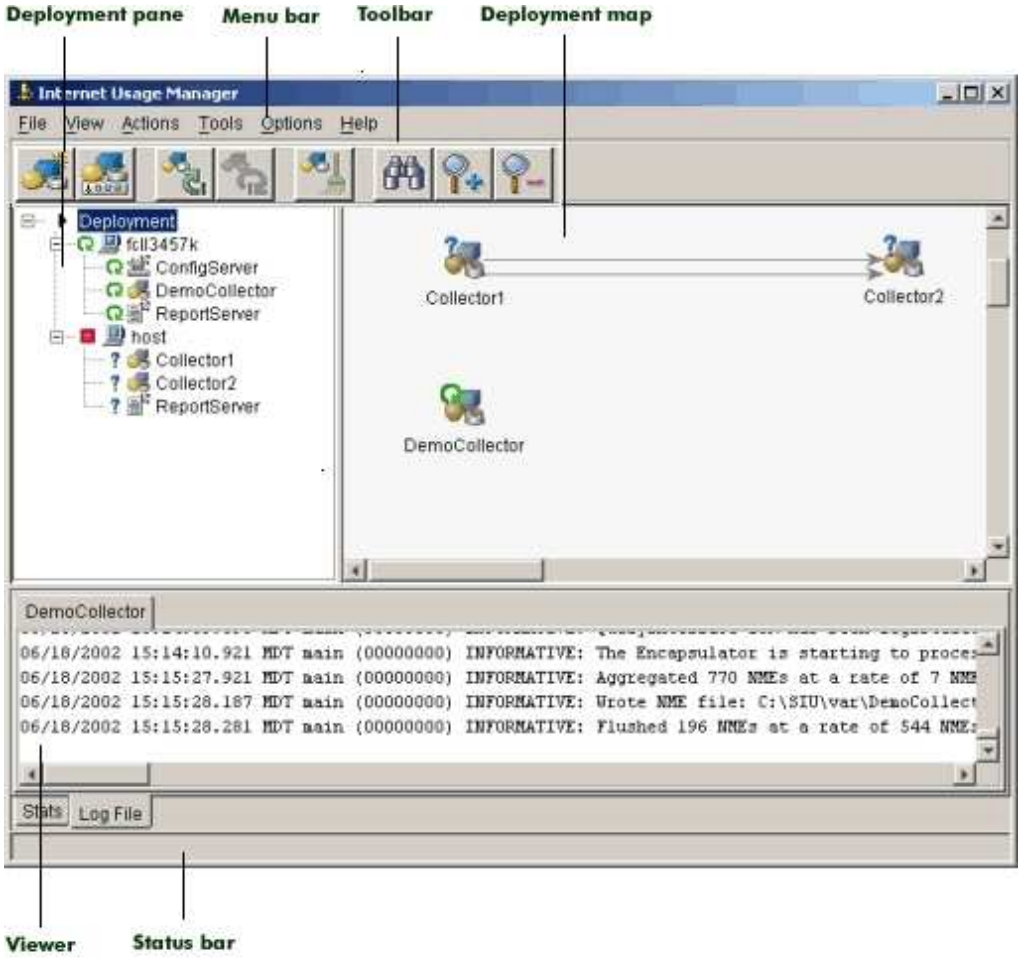
Switches  Collectors

IUM Introduction - Components

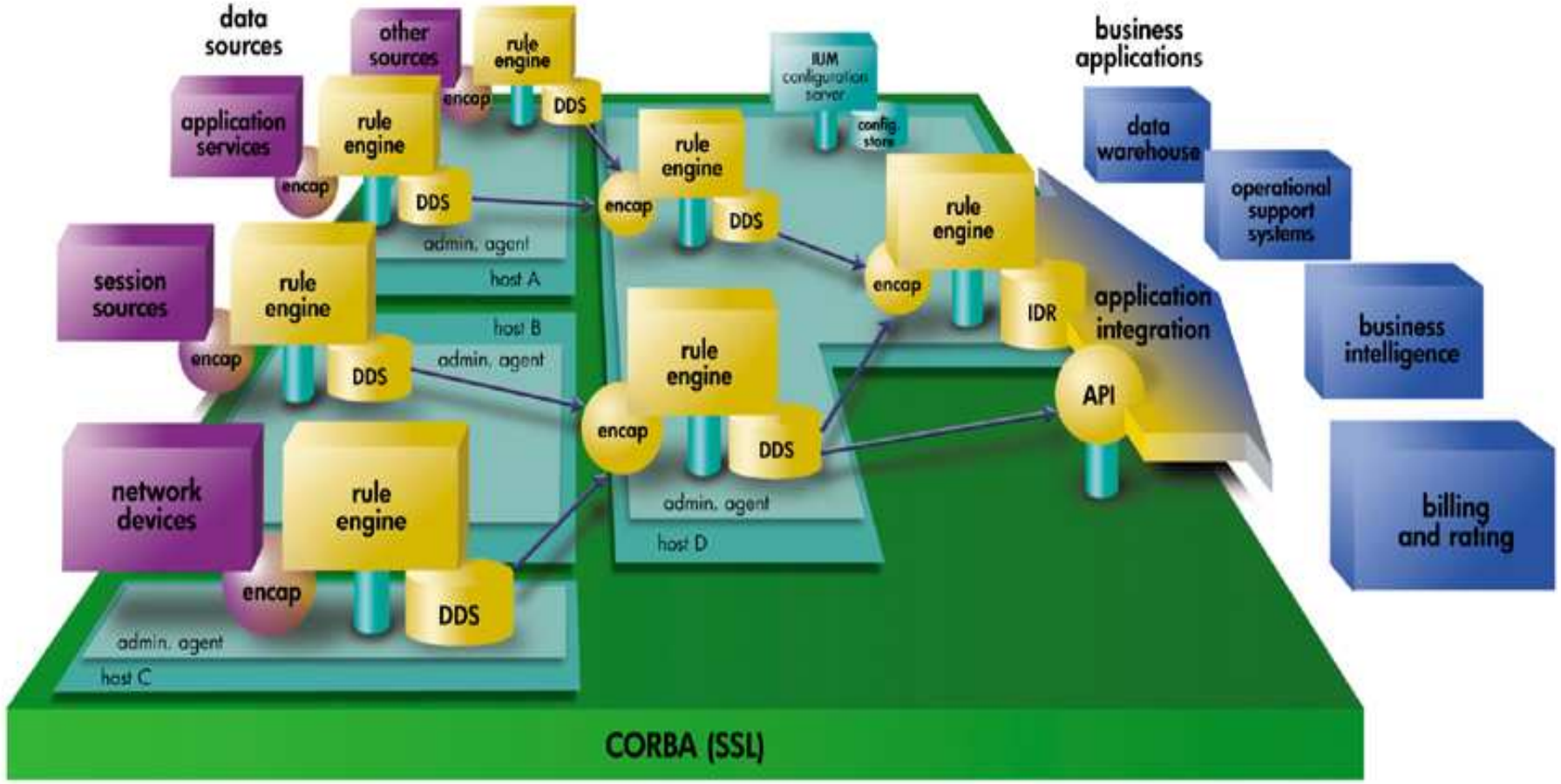
- Session Server
  - The session server is the main component that implements a Real-Time Charging Manager.
  - You can configure as many session servers as you need, typically at least one for each protocol

IUM Introduction - Components

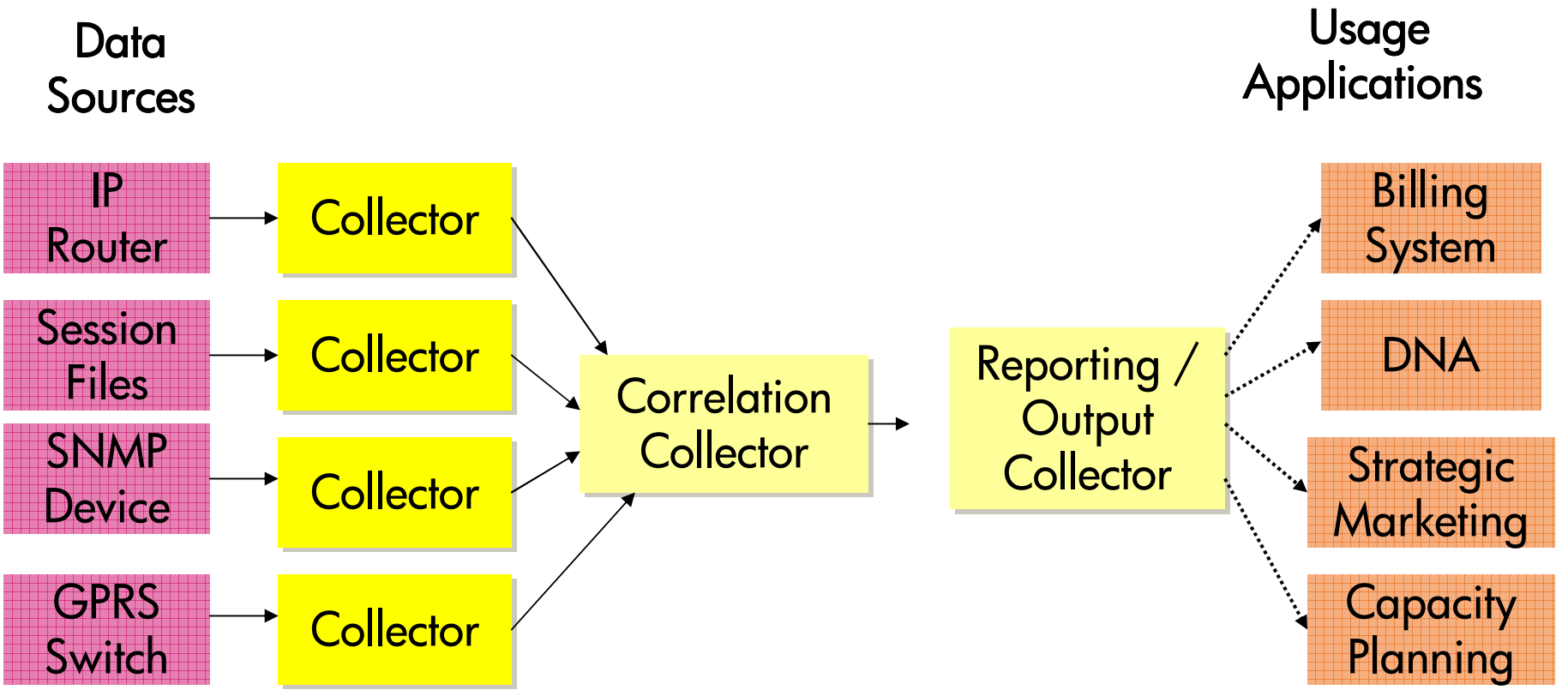
- Launchpad



IUM Architecture



IUM Architecture



IUM Architecture

- **Open - Standards based**
  - JAVA - dynamic plug-in architecture
  - CORBA - Admin/Config/Query interfaces available via IDL for integration on any platform in any language
- **Modular**
  - Unit of IUM deployment is a collector
  - Collector comprised of inter-changeable plug-in components
  - Dynamically Configurable using JAVA
- **Portable**
  - Multi-platform support on HP-UX, Solaris, NT

IUM Architecture

- **Scaleable**
  - Distributed Architecture - Can run on multiple servers
  - Distributed processing close to metering points allow for data reduction and reduced network bandwidth across WAN links
  - Hierarchy of collectors co-operate to implement the business logic
  - Arbitrary hierarchies of collectors can be used to pipeline business rules and process usage data
  - Hierarchy provides for unlimited performance
  - Individual collectors can process more than 1 Million NME/minute

IUM Architecture

- **Management**
  - Central Server for Configuration and Administration
  - GUI for access to Configuration data
  - Configuration can be updated via GUI, API or command line
  - Wizard for ease of configuration
  - Status & Statistics reported by all collectors
  - Integration with OpenView
  - Detailed Logging provided by all components
- **High Availability & Redundancy**
  - Configurable depending on OS

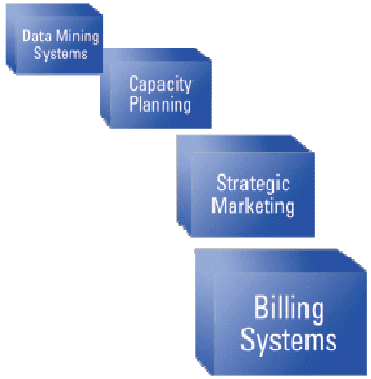
IUM Architecture

- **Flexible Manipulation of data**
  - User-configurable rules-based processing engine
  - Agnostic to data consumed
  - Supports Aggregation, Correlation & Mediation
  - Multiple data types supported: Integer, string, long, IP Address, ..
  - Multiple / Concurrent Aggregation Schemes supported
  - Open Interfaces allow for adding additional rules or customization of existing rules
- **Extensible**
  - SDK/API Available - extensible JAVA objects, IDL
  - Simple & Powerful Plug-in Model

Summary

IUM – Powers Usage Applications ….

Billing Systems	Based on usage of resources
Strategic Marketing	For Competitive Product Positioning
Capacity Planning	Anticipating Subscriber Behavior
Data Mining	For in-depth Business Intelligence



Summary

… with data from your infrastructure

Level 2/3 Network Devices	Routers, Switches, Gateways…
Session Sources	Network Authentication/Session Services
IP Services	E-mail, Web Hosts, VoIP, VPN …
Other Services	SNMP Devices, Custom Sources …