Agate TAS

Full-featured carrier-grade Telecom Application Server

Elitnet's **Agate TAS** is a robust, open, and flexible Telecom Application Server which ensures convergent service delivery across SS7 and IMS/VoLTE platforms. Agate TAS ensures flexible integration with existing network infrastructure to run and correctly provision a wide range of off-the-shelf SS7, IMS, and converged services and facilitates custom service creation. Agate TAS uses a combination of open source and branded systems to provide both excellent reliability and outstanding price performance.

Open Standards and APIs

Agate TAS is based on JAIN SLEE technology and features open standards and APIs, simplifying service creation and expansion, ensuring no vendor lock-in, and mitigating risks related to system end-of-life.

Wide Range of Available Services

Agate TAS can run a wide range of off-the-shelf services, including call control, charging control, enterprise, location-based, and other types of custom applications.

Excellent Time to Market

By deploying Agate TAS on its network, the operator significantly reduces the time to market and expenses for any off-the-shelf VAS as well as new custom services.

Outstanding Price Performance

Agate TAS combines the flexibility of open source technology with credibility and stability of branded systems such as Dialogic Signaling Stack to provide the operator with maximum value.

Maximum Value of Infrastructure

Agate TAS is integrated with various existing network components, allowing the operator to deliver new innovative services while re-using existing SS7 and IMS infrastructure.

Smooth Transition to VoLTE

Agate TAS is integrated with both SS7 and IMS networks and ensures smooth transition of services from SS7 network to LTE/VoLTE network.

The architecture of Agate TAS is designed to ensure five-nines (99.999%) availability, horizontal scalability, and zero downtime during maintenance. Agate TAS encompasses the deployed Services, a Service Orchestration layer, and an easily expandable range of Resource Adapters used to connect to network components.

Agate TAS also includes separate powerful nodes for service provisioning, telco API exposure to third parties, and statistical data collection, analysis, and reporting.
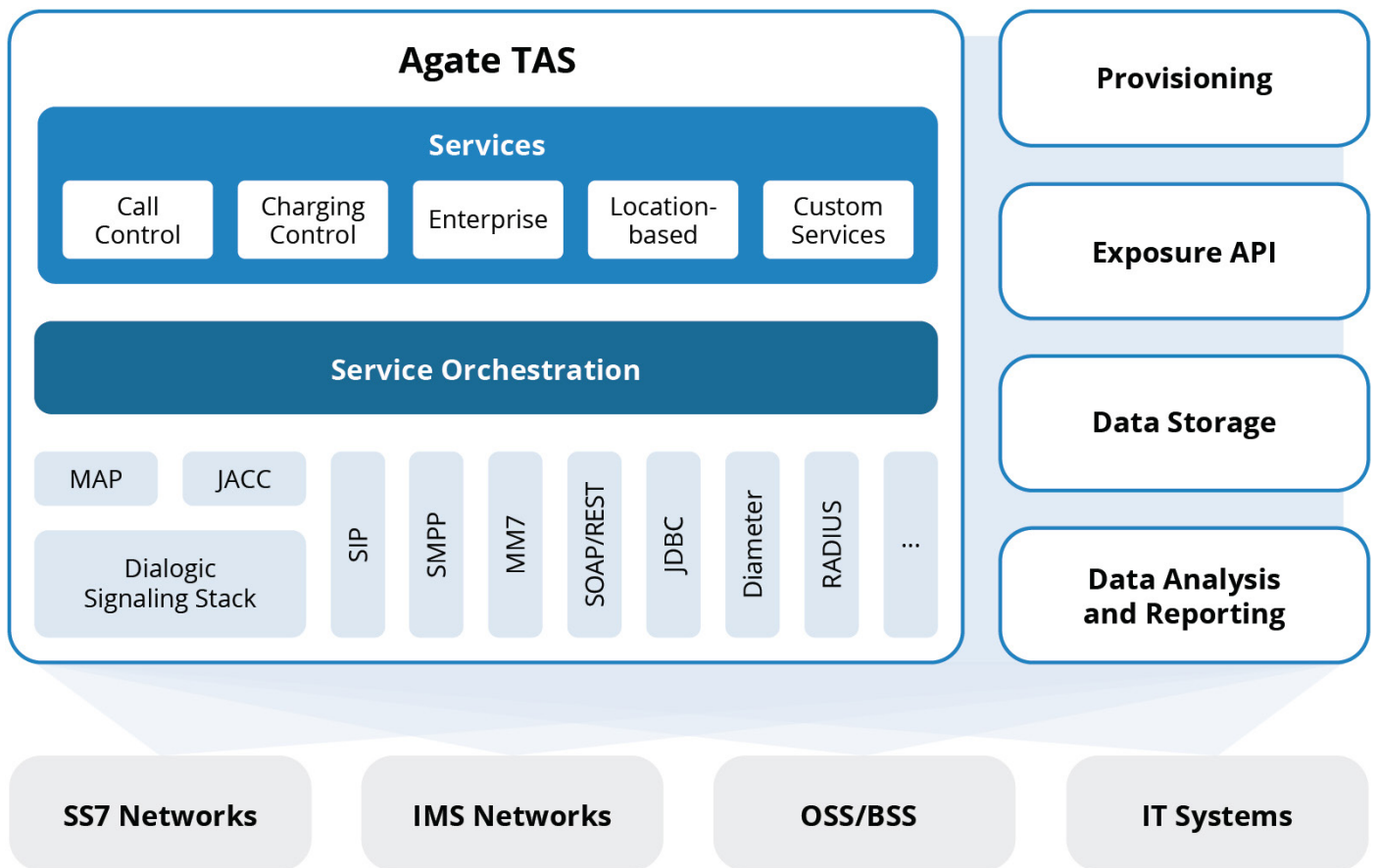
Key Features and Functionalities

Elitnet's Agate TAS encompasses the following main features and functionalities:

Carrier-grade Solution. Agate TAS is a carrier-grade Telecom Application Server which can be deployed on commodity server hardware or virtual machines. With a wide range of connections to network resources, Agate TAS reuses existing infrastructure and reduces costs for the operator.

Horizontal Scalability. All Agate TAS nodes are horizontally scalable, allowing the operator to increase capacity by transparently adding additional nodes to the cluster.

High Availability. Agate TAS has no single point of failure and features high availability for all nodes, ensuring smooth service delivery even in case one of the nodes fails.

Zero Downtime Maintenance. Agate TAS ensures no downtime during regular and unplanned system maintenance. Any nodes can be dynamically connected and disconnected without having any influence on system performance.

SS7 Network Integration. Agate TAS utilizes the Dialogic Signaling Stack for integration with the SS7 network. The integration includes both SIGTRAN and TDM connectivity and ensures five-nines availability and a high degree of fault tolerance.

IMS Integration. Agate TAS includes all components required for integration with the IP Multimedia Subsystem (IMS). This integration utilizes Diameter and SIP interfaces. Agate TAS may also be integrated with MME nodes via the Diameter interface.

VoLTE Integration. Agate TAS may include an off-the-shelf application which implements MMTel supplementary services.

Service Provisioning. Agate TAS ensures correct service provisioning by accessing and configuring various network infrastructure components and establishing correct action sequences throughout them. A group of Web Services (SOAP, REST, LDAP) is used to switch on and configure services.

Integration Points. Agate TAS is integrated with network infrastructure via the following interfaces:

Call Control

INAP
(INAP CS1, SINAP,
Nokia CS1, Ericsson CS1+)

CAP
(CAMEL phase 1, 2, 3, and 4)

SIP

Messaging

SMPP

MM7

MAP

Mobility

MAP

Diameter
(Cx, Sh)

Charging

Diameter
(Gy, Ro, Rf)

RADIUS

Provisioning

SOAP

REST

JDBC

LDAP

Monitoring and Management

SNMP

JMX

Call Control Integration. For call control integration, Agate TAS utilizes Java Advanced Call Control (JACC), an object-oriented protocol-agnostic API which encompasses INAP and CAP interfaces and connects to the SS7 network via the Dialogic Signaling Stack.

Extensive Data Analysis and Reporting. All services deployed on Agate TAS generate Session Detail Records (SDRs) which are uploaded to the Data Analysis components. These components process the information and generate reports which are fully customizable depending on the operator's requirements.

Monitoring Integration. Agate TAS ensures flexible integration with the operator's existing network monitoring system. Monitoring checks can be integrated with agents of various monitoring systems, including integration via SNMP traps and JMX interface.

Integration with IT Systems. Agate TAS can be integrated with customer care portals and customer provisioning front ends to connect all services to a single system. Fully customizable SOAP and REST interfaces are used for this purpose. Agate TAS also facilitates telco API exposure by allowing the operator to apply policies (such as authentication, fraud prevention, etc.) to interfaces which are exposed to third parties.

Off-the-shelf Services. When Agate TAS is deployed on its network, the operator can choose from a wide range of already available services, ranging from simple yet beneficial consumer market services such as Call Screening and Virtual Number to complex enterprise market services implementing virtual office functionalities, such as Company Number, Call Recording, Virtual PBX, and Virtual Call Center.

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