## Software Architecture of CDP and Gen Al Author: Nguyễn Tấn Triều (Thomas) Modification Date: Mar 15, 2024 Paid, Earned & Shared Media Google Ads, Facebook Ads, LinkedIn Ads, **Customer Data Platform for Smart Business** Affiliate Ads, SEO traffic, Social PR Event, ... **Internet traffic Data Clouds** (1) Data Observer (3) Data Processor (2) Data Storage **Owned Media Hubs** Load Balancer - Ports 80, 443 (First-party Data Sources) (HA-Proxy / Nginx / Cloud) A.I BOT **Event Data Tracking** ArangoDB (JavaScript / SDK) (Personalization Engine) **Dashboard** Content **Profile Tracking** AI/ML Pipeline (JavaScript / SDK) (Jupyter Notebooks, **Product** Google Colab,...) R **Data Observer Master Database Service** (VertX Java JDK 8) TCP Ports: 8600 **Profile / Event Data** (ArangoDB) **Vector Database** (port 6333, Qdrant) Data Uploader -Data Processor **Data Scientist** Slave Database **Data Importer** (4) Data Administration **Databases** TCP Ports: 8610 (SQLAlchemy + Celery) (MySQL, Postgres, Oracle, (ArangoDB) SQL Server, Google Sheet,...) **Admin Data API TCP Port: 9070** Chatbot (VertX Java JDK 8) (6) Data Activation (5) Data Automation with A.I. **Real-time Marketing** (Push Notification / SMS / Zalo MS) **Admin Dashboard** Reports (Javascript + HTML5) A.I BOT **Email Marketing** (Chatbot + Personalization + Automation) (B2B / Product Recommendation) **Paid Media Advertising** (Re-targeting, Lookalike targeting) **Vector Database Digital Marketer** System Admin (port 6331-6332, Qdrant)