Universal AI Agent Platform DOC-ID: UAA-EN-2026-V3

Universal AI Agent — Solution Guidebook & Architecture Deck

Zero System Overhaul — Next-Gen MCP Enterprise AI Agent Connecting Directly to Your Databases in 3 Days

APPI / Zero Data Retention

MCP Read-Only Protocol

01. EXECUTIVE SUMMARY & EXPECTED ROI

Universal AI Agent connects directly in Read-Only mode to your existing enterprise databases (SQL Server, PostgreSQL, MySQL, SQLite) to deliver 24/7 conversational e-commerce sales support and instant natural-language executive analytics on a single unified platform.

Automated Inquiry Resolution

80%

Unified Web Widget + Messenger



Agent Reply Drafting Time

-70%

AI Copilot Auto-Suggested Drafts



Initial Free PoC Deployment

3 Days

$0 Setup Fee • Zero API Rebuilding



02. SYSTEM ARCHITECTURE DIAGRAM & CORE SECURITY

FLOW 01 Channels & Auth

Customers / Staff

Ask questions in natural language via Web Widget (Cookie auth) or FB Messenger.

FLOW 02 Gate 1 & AI Loop

Regex + Self-Correction

Blocks unsafe inputs and generates accurate SQL with Business Dictionary & Reflection.

FLOW 03 Gate 2 & Access

SQL AST & Row-Level RLS

AST parser enforces 100% SELECT-only; injects Role & User Scoping filters.

FLOW 04 TLS 1.3 Direct

Enterprise Database

Queries your DB in Read-Only mode with Zero Data Retention.

SECURITY 01 **Two-Layer DB Guardrail & 100% Read-Only Connection**

Combines a fast Regex input filter with an SQL AST (Abstract Syntax Tree) verifier to block 100% of data-modifying queries (INSERT, UPDATE, DELETE, DROP) before reaching your DB.

SECURITY 02 **Row-Level Security (RLS), Role Sync & Zero Retention**

Automatically syncs with your DB's role_table and User Scoping keys to isolate data access and response tone per user. Zero Data Retention ensures 0% external model training.

ENGINE 03 **LangGraph Self-Correction Reflection & Rich UI Cards**

Self-verifies generated SQL and query results to eliminate hallucinations, dynamically rendering rich product cards (with images/stock) and KPI tables.

STUDIO 04 **4 AI Auto-Detect Engines & Schema Business Dictionary**

One-click AI Auto-Detect for Image JOINs, Roles, User Scoping, and Table Permissions, paired with a natural-language Business Dictionary and Live Preview Playground.

03. NO-CODE ADMIN STUDIO WALKTHROUGH (3 VISUAL SCREENS)

Zero coding required. Business and IT teams can configure and launch the agent in 3 intuitive screens.

SCREEN 01 **3-Step DB Setup Wizard & AI Table Suggestion** — Read-Only Connected (18ms)

- Select PostgreSQL / SQL Server / MySQL / SQLite and test Read-Only connection
- AI automatically highlights key business tables (products, orders, etc.)
- Exclude sensitive tables or PII columns with a single checkbox

```
Tables: ☑ products ☑ orders ☐ admin_secrets (Excluded)
```

SCREEN 02 **4 AI Auto-Detect Engines & Business Dictionary** — AI Auto-Detect Ready

- 1-click auto-detection for Image JOIN, Role Table, User Scoping, and Table Access
- Map cryptic column names to business terms (e.g. total_amt → Net Revenue)
- Configure role-specific persona tone (Executive vs. Customer Support)

```
Dictionary: orders.total_amt ➔ "Net Revenue (Tax Included)"
```

SCREEN 03 **Live Playground & 1-Line Script Embed** — Live & Copilot Active

- Test SQL reasoning and rich product cards inside the built-in Playground
- Enable browser Cookie/LocalStorage customer auth and Pre-chat form
- Paste a single <script> tag into your website to go live in 30 seconds

```
<script src="https://.../widget.js" data-id="ag_jp01" async></script>
```

04. SYSTEM SPECIFICATIONS & SUPPORTED ENVIRONMENTS

Supported Databases	Microsoft SQL Server / PostgreSQL / MySQL / SQLite (100% Read-Only)
Protocol & Deployment	Model Context Protocol (MCP) / Cloud (AWS, Azure, GCP) & On-Premise VPN Ready
Channels & Unified Inbox	Web Chat Widget (1-line script embed) + Facebook Messenger (Unified Omnichannel Inbox)
Customer Auth & Pre-Chat	Automated Cookie / LocalStorage token authentication & customizable Pre-Chat Form
Security & Compliance	Japan APPI Compliant / ISO/IEC 27001 (ISMS) Aligned / TLS 1.3 & AES-256 / Full Audit Logs

05. FREE POC IMPLEMENTATION ROADMAP

STEP 01 — Day 1

Scope Alignment (30m)

Align on target DB type and priority sales/analytics use cases (NDA ready).

STEP 02 — Day 2

DB Wizard & Dictionary

Connect Read-Only DB, select AI-suggested tables, and sync Business Dictionary via MCP.

STEP 03 — Day 3+

AI Config & Live Preview

Verify persona, business rules, Image JOIN cards, and RLS permissions on live data.

STEP 04 — 30 Secs

1-Line Embed & Go Live

Paste 1 <script> tag to launch on your site with Human Handoff and AI Copilot.

06. CORPORATE PROFILE (VENDOR INFORMATION)

Company Name	BK HIGHTECH Co., LTD
Established	2022
Co-Founders	Dr. Dang Hoai Phuong, Tan Nguyen, Dung Nguyen
R&D Consultant	Dr. Dang Thien Binh (Applied Research Collaboration with Da Nang University of Science and Technology / DUT)
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