



## From ERP to Universal Unlimited ERP-X

Embracing the unlimited model, a whitepaper.

Terms such as ERP (Enterprise Resource Planning) are quickly obsoleting, signalling swiping transformations in both IT (Information Technology) and EA (Enterprise Architecture) disciplines, while igniting a wave of Kodak moments for unsustainable industries, older software houses and web 1.0 businesses.

After the advent of BYOD (Bring Your Own Device), cloud platforms and transactional web at the end of the 2000's, traditional IT slipped out of its cost-centre silo box during the early 2010's, to become a key profit driver across all enterprise functions. cloudyBoss CEO, Lou Schillaci recently coined such evolution "organisational softwarisation" in an interview on APEASE, cloudyBoss elastic modus operandi.

This trend influenced cloudyBoss roadmap when we started building the software stack 5 years ago together with pilot clients. A collapsing cost of entry to global business, a spike in corporate start-up programs setup, the free agency gig culture and a pronounced market fatigue with last-century ERP systems were additional influencing factors.

### 1. The unlimited and universal cloudyBoss model

True to its goal to boost the digital economy via the mass production of sustainable smarter enterprises, cloudyBoss departed from the commercial limitations of the anything-as-a-service model (pay per user, product or anything else that pricing modellers would come up with) and co-created with its clients an unlimited universal enterprise engine.

Unlimited and universal mean that clients do what they want with the software: they can set up an unlimited number of users, platforms, sites, products, content without ever worrying about initial, additional or upgrade licensing costs. In fact, cloudyBoss low running costs are essentially tied up with infrastructure usage (storage/bandwidth).

While such elastic infrastructure dynamically scales up or down depending on client needs, the vast majority of clients rarely needs any additional capacity beyond the already oversized NEXT+ baseline configuration.

The code is rigorously maintained within a client-centred agile fast cycle (typically 3 yearly releases): this means that clients co-drive the software evolution and are always first with the ultimate best technology and business practices.

While there's a lot of attention on the cloudyBoss ERP-X platform itself (NEXT+), a remarkable aspect of the technology is how it enables cloudyBoss to reinvent the managed services discipline with its HORIZON+ product, and how it provides a more effective approach to start-up incubation and large organisation transformation via cloudyBoss OT programs.

## cloudyBoss baseline specifications

### **Frontline market engagement**

- 1) Unlimited multi-device multilingual end-users customisable responsive front-end platforms
- 2) B2B, B2C, B2E, B2B2C and C2C multicurrency ecommerce platforms including chat bots
- 3) smart contracts, auctioning and reverse-auctioning
- 4) Multicurrency pricing and promotional engines
- 5) Omni-channel interaction management
- 6) Integrated relationship management
- 7) Dynamic segmentation
- 8) Content management
- 9) Product management
- 10) Fraud prevention

### **Integrated universal accounting system**

- 1) Integrated physical accounting (designed and ready for circular economics)
- 2) Integrated social accounting (designed and ready for circular economics)
- 3) Full multi-location inventory management
- 4) Unlimited charts, entities and centres
- 5) Multidimensional ledgers
- 6) Banking reconciliations
- 7) Unlimited simulations
- 8) Universal tax engine
- 9) Asset management
- 10) Bill of substances
- 11) Bill of materials
- 12) Receivables
- 13) Payables
- 14) Payroll

### **Support**

- 1) Multilingual multi-device responsive intuitive customisable UI designed for a 0-training UX
- 2) Pervasive contextual attribute-level help
- 3) Comprehensive manuals and how-to
- 4) Messaging and alerting tools
- 5) Integrated change request
- 6) Integrated user forums
- 7) Collaboration tools
- 8) Knowledge base

### **Workflow**

- 1) Contacts / Interaction
- 2) Payables / Purchases
- 3) Transactions
- 4) Promotions
- 5) Knowledge
- 6) Software
- 7) Products
- 8) Content

### **Insights** (intelligence predictive tools)

- 1) Contextual push dashboards
- 2) Configurable alert reports
- 3) Visual dashboards
- 4) Import/Export
- 5) Data cubes

### **Granular matrix-based security**

- 1) Single attribute level user security profile
- 2) Embedded or active-able data validation
- 3) Data immutability (block chain)
- 4) Data authentication
- 5) Data geo-fencing
- 6) Data segregation
- 7) Data encryption
- 8) Traceability
- 9) Resilience
- 10) Recovery

Customers are embracing this unlimited and universal model albeit for different reasons:

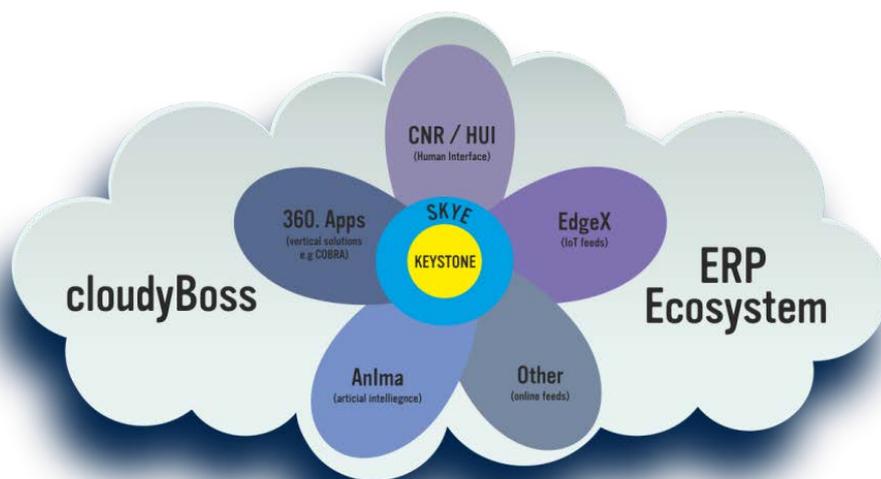
- **Global SMEs** seek solutions to integration pain points by replacing heterogeneous, disjointed, stand-alone apps with the one-stop-shop low-cost (US\$1 per day) NEXT+ enterprise engine,
- **Local SMEs** look to expand internationally in a sustainable manner via HORIZON+,
- **Start-ups** turn their big ideas into global businesses virtually overnight with either NEXT+ or HORIZON+ and the Startospheric Accelerator Program,
- **Incubators/investors** neutralise the early ventures' premature scaling issue, increase their success rate and shorten I2I - Idea-to-IPO - payback time via APEASE alliances with cloudyBoss and,
- **Large multinationals** take their corporate start-up program to the next level while fast-tracking their dematerialisation, automation and disruptive transformation agendas via cloudyBoss OT programs such as advanCITY.

## 2. The elastic cloudyBoss mantra

Today's cloudyBoss technical fait accompli says little to nil about the intense stealthy phase that the cloudyBoss technical team went through, challenging all software engineering, architectural and operational fundamentals.

For example, both CEO Lou Schillaci and Chairman/CTO Giovanni Di Noto recently talked about how **organisational elasticity** was achieved via cloudyBoss' innovative APEASE modus operandi.

Beyond APEASE, the inescapable MOM (Message Oriented Middleware) and Keystone (cloudyBoss unique data model) are 2 more dimensions to the elastic equation; MOM and keystone underpin cloudyBoss architectural mantra (aka AWSUM SECRU CRUISE, another symptom of our acronymic addiction).



This elastic mantra boils down to the tight interlacing of essential components:

- **horizontal components**, a rich constantly evolving functional architecture encompassing 50+ baseline modules that any 21st-century smart organisation expects today from any enterprise platform (feature list below this post)
- **vertical components**, a range of industry-specific solutions enriching the horizontal layer with additional tailored components for so far healthcare, food, energy, building, mobility, IoT, smart cities and other strategic sectors
- **meta-systems**, including an SDLC version control module which reconciles and immutably tracks the history of coders' inputs at single instruction byte level, rather than document or task level such as in the case of GitHub
- **MOM**, which elastically and automatically scales each client infrastructure to its usage, spikes and troughs in real-time (programmatically allocating, activating or deactivating server nodes) delivering uniform performance
- **keystone**, cloudyBoss unique block chain-ready data model designed to boost minified elegance, maximise OOP (Object Oriented Programming) while optimising DRY (Don't Repeat Yourself) coding technics

One of the prime drivers in conceiving cloudyBoss keystone was indeed to enable **functional elasticity**, and, by so doing, complement **organisational elasticity** (via APEASE) and **infrastructural elasticity** (via MOM).

It all started with a challenging (borderline impossible) change request to materialise the universal attribute of cloudyBoss eco-system as well as unleashing predictive and AI-like features. Both clients and partners asked:

“Can there be an answer to a question that we are yet to know about?”



Solving this seemingly paradoxical request via revisiting our entire data model heralded a few surprising facts:

- For example, and aside from a few nuances, keystone design outcomes mostly resemble those reached by the nosql and AI (Artificial Intelligence) camps;
- What is remarkable though about this aspect is that, contrary to the mainstream key-value store approach in nosql and conventional AI, keystone undertook a complete opposite journey pursuing higher uncharted data model normalisation, well beyond the semantically-neutral and time-centred latest 6th normal form level;
- Along the way, similarities emerged between Keystone and DNA (Deoxyribonucleic acid) molecular properties, providing cloudyBoss technology stack with a leapfrogging edge in areas such as blended genomics + informatics, DNA-based data storage and the upcoming 0-device bio-computing next internet;
- keystone also triggered a fractal approach to code development, enabling greater minified elegance, higher accuracy and shortened development cycles via counter-intuitive OOP maximisation technics;
- Last but not least, keystone opens the door to the easier uncovering of meaningful insights from unintelligible high volume data, turning to reality the concept of smart information (aka inverted data flow, or push information flow, i.e. information that routes itself to the right recipient at the right time in the right place).

### 3. The world of tomorrow

Our relentless 360° work on elasticity certainly permeated outside the organisation to the rest of our supply chain.



Cloud infrastructure providers have caught up, and many of today's smartest hosts charge now client software platforms on a variable per-use basis (node/s, storage, read/write, processing cycles and bandwidth), indirectly encroaching on what were once conventional software license revenues, disrupting along the way many unprepared old-school IT vendors, and pressuring them to shift from a software-based to an infrastructure-centred business model.

Despite their variability, operative costs have remained sustainable, actually translating to greater efficiencies, and have so far dissuaded natively agile cloud software operators such as cloudyBoss from seeking vertical integration by reinventing the wheel with their own scalable smart global network of distributed metal-level nodes.

These infrastructure dynamics might, however, face their own limits sooner than expected, mostly with the advent of peer-to-peer protocols, bio-computing and DNA-storage, fundamental steps toward the upcoming web 4.0.

Future-proof portability toward new connected environments operating beyond today's conventional HTTP protocol is certainly driving the expansion of cloudyBoss technology stack both:

- **upstream**, with the development of zero-training natural UI based on new break-through semantics more suitable to a zero-device brain connected context, but also
- **downstream**, with new P2P operative systems and protocols tailored to the next non-metal internet (DNA storage and neuromorphic bio-computing), aka web 4.0

These are indeed fascinating R&D themes that we'll soon talk about in more details, once first prototypes emerge.



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