NAVIGATE YOUR NEXT

Open Source, Data & Postgres
An Enterprise View

Gautam Khanna

VP & Head - Modernization Practice, Infosys

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OPEN SOURCE HAS COME A LONG WAY AND THE POSSIBILITIES ARE ENDLESS

1991

The first 'big' open source
Birth of the Linux Kernel

Early 2000s

Emergence of Open Source Conferences
Birth of "Commercial Open Source" to differentiate from free software

Late 2000s

The data explosion and user experience revolution
Data, messaging and UI technologies from new tech companies where existing solutions could not meet their needs

Rise of Microservices, DevOps, Containers
Increasing speed, scalability of applications and rapid testing

2012+

2020+

Distributed SQL, Distributed service discovery, Service mesh, Serverless

2018

Microservices 2.0, NoSQL, Event driven, Streaming, Cloud
Increasing speed, scalability of applications and rapid testing

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FOSS is no longer a four letter word for enterprises

Enterprise adoption of Open Source is mainstream
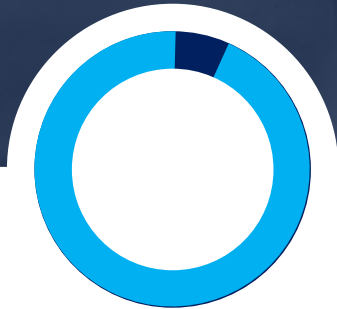
95%
Companies say Open Source
is **important** to their
enterprise#

60%
Clients say #1 challenge is
*Huge cost incurred to maintain
and upgrade monolith systems
built on proprietary
technologies^*

60%
Companies say Open
Source is being used for IT
Modernization#

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WE HAVE PLAYED A KEY ROLE IN CONVERTING THE NON BELIEVERS…

Before

10.7 OS/DB/SW Requirements

Please provide the details around the prerequisites from OS/DB and Software license as a base for the provided solution to work. Offered solution component licenses and details need to be provided separately. As per ▮▮▮▮ guidelines we do not prefer any open source component in the solution, however the only acceptation is based on last resort option with additional controls and assurances fro▮ the provider and will be approved explicitly by ▮▮▮▮

S/N	Component (OS/DB/SW/App etc)	Environment	Recommended Platform	License Type	License Quanti▮

2017 RFP - Redacted

After

SI#	Layer	Recommendation
1	Core GRC product	MetricStream
2	UI/Portal	**Liferay**
4	BPM	**jBPM**
5	Document Management	IBM FileNet
7	Database	**PostgreSQL**
8	Reporting	QlickView
9	**OS**	**RHEL**

Final approved solution stack

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GSTN STACK – Largest Open Source grounds-up development project in the country

NATION TAX MARKET

Needed to replace 30+ indirect taxes with uniform tax laws across states

6.4 m tax payers migration from existing tax regime

15 m tax payers to file taxes in the new system

50% of filing on last day – 1,2 B invoices

Used Open Source technologies with light weight platform

Platform based architecture with faceless engine exposing API for consumption

Key design principles – Platform approach, SEDA and distributed everything

End-to-End DevOps pipeline built on Jenkins, Maven, Docker etc..

151 BUSD
Tax collection over 18 months

110 k
Concurrent users with <2 seconds response time

Highly ranked site
75 on SimilarWeb.com and 140 on alexa.com

70 m
page visits and return filings

Zero RPO
And a 30 minutes RTO to provide a robust DR solution

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INFOSYS LIVE ENTERPRISE SUITE

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2:05 / 2:21

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…BUT THE ADOPTION MATURITY VARIES…
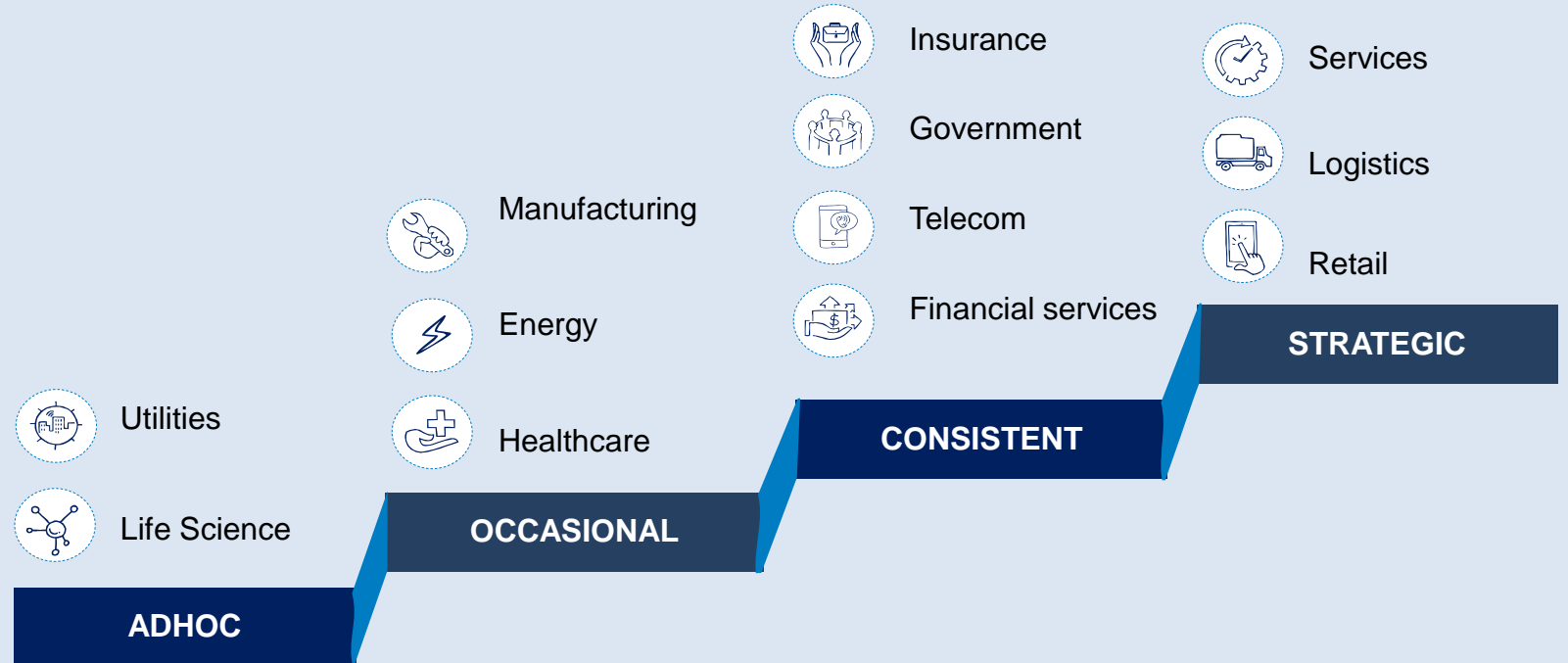
ADHOC
- Utilities
- Life Science

OCCASIONAL
- Manufacturing
- Energy
- Healthcare

CONSISTENT
- Insurance
- Government
- Telecom
- Financial services

STRATEGIC
- Services
- Logistics
- Retail

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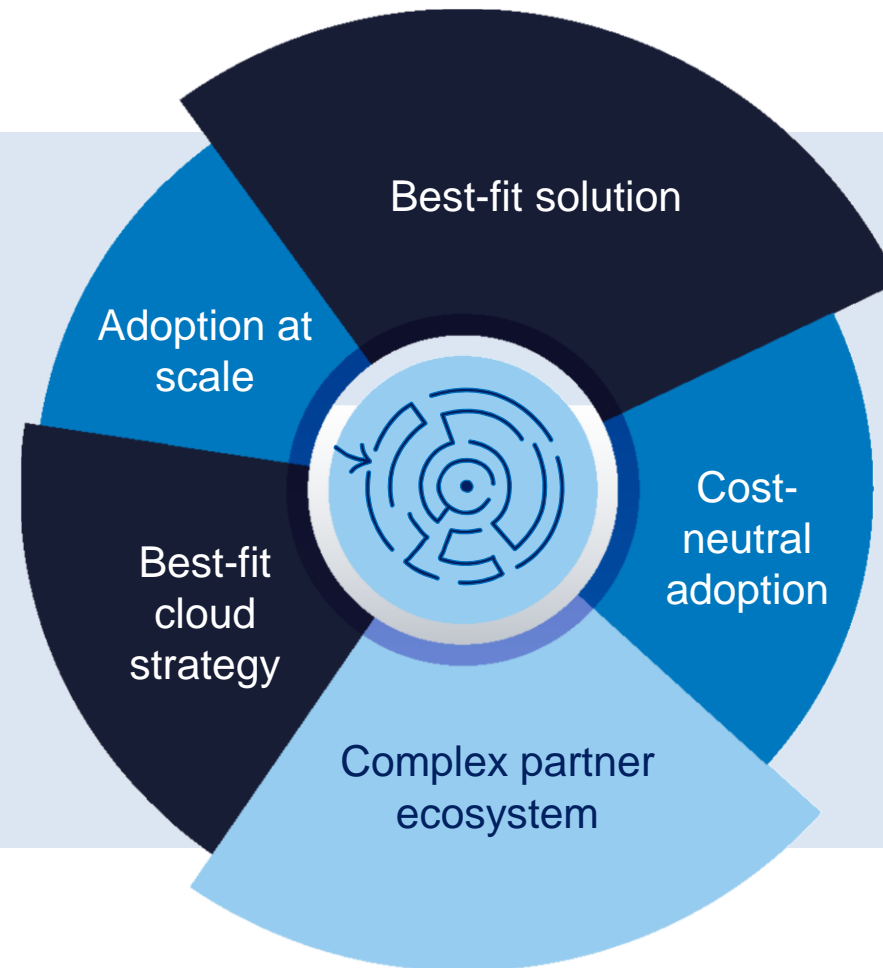
INFOSYS IS TAKING A STRATEGIC VIEW OF OPEN SOURCE AND POSTGRES IN PARTICULAR

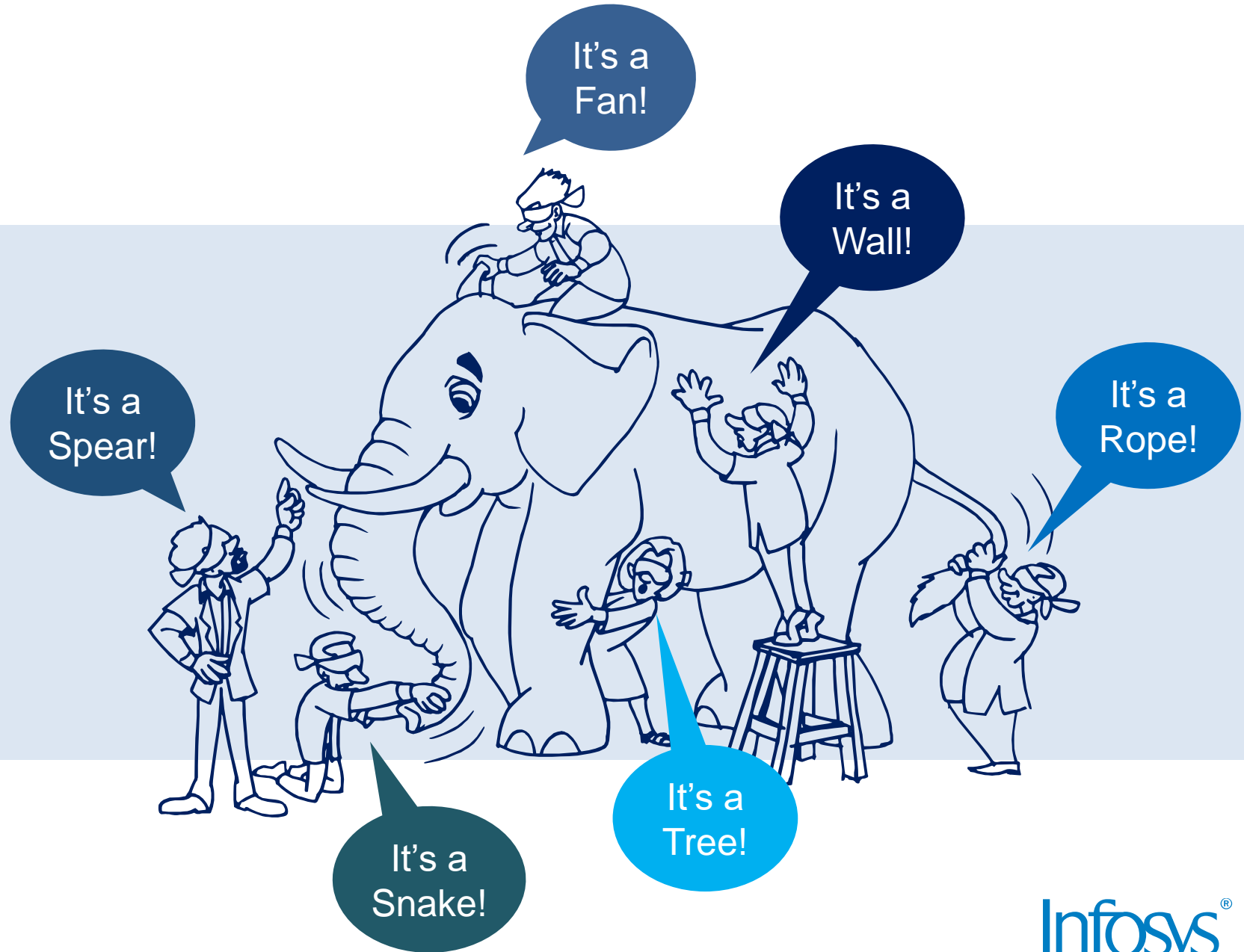**2019**

32,000+
Employees trained
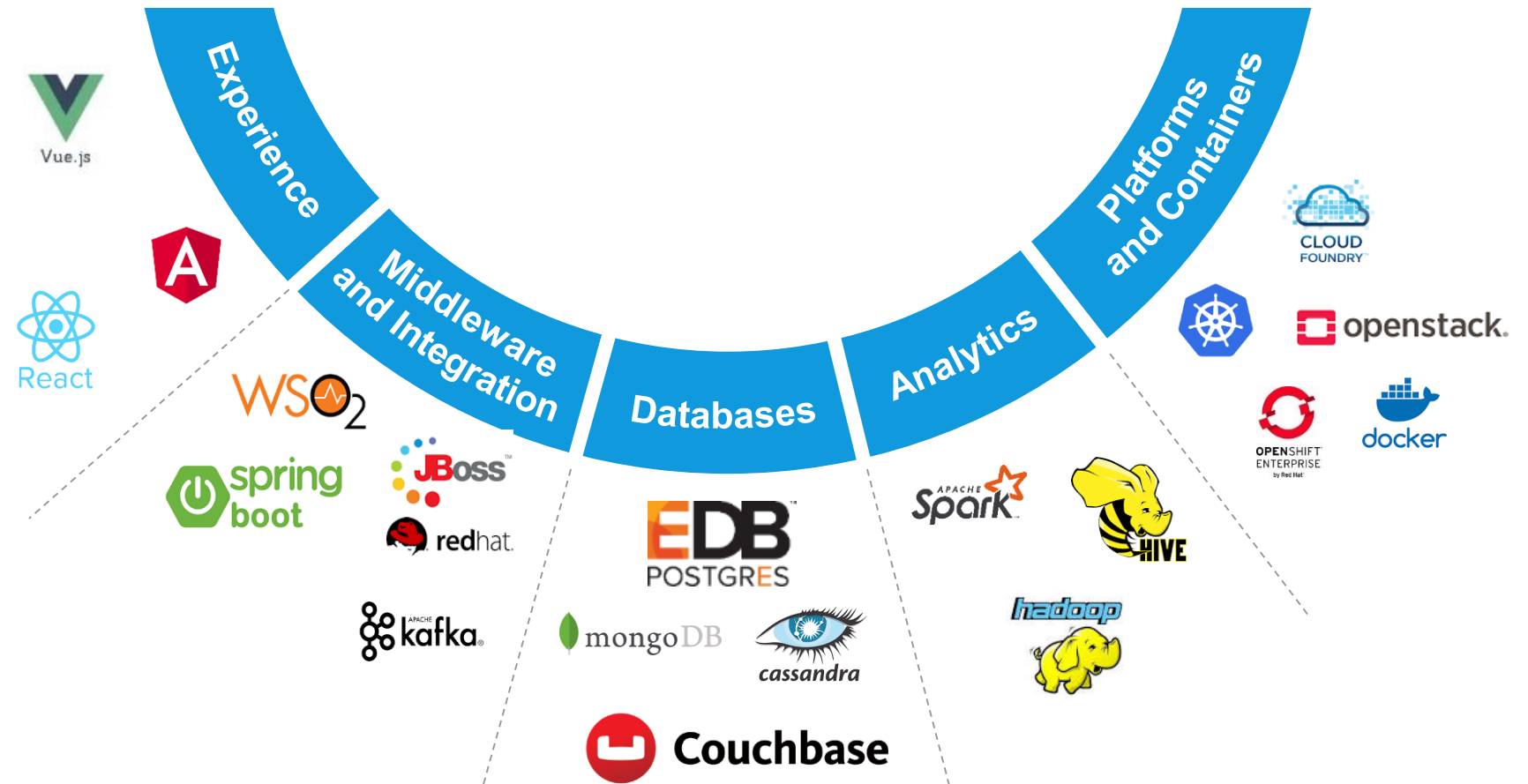on Open Source

6300
Projects executed
on Open Source

1000+
Contributions
to Open Source

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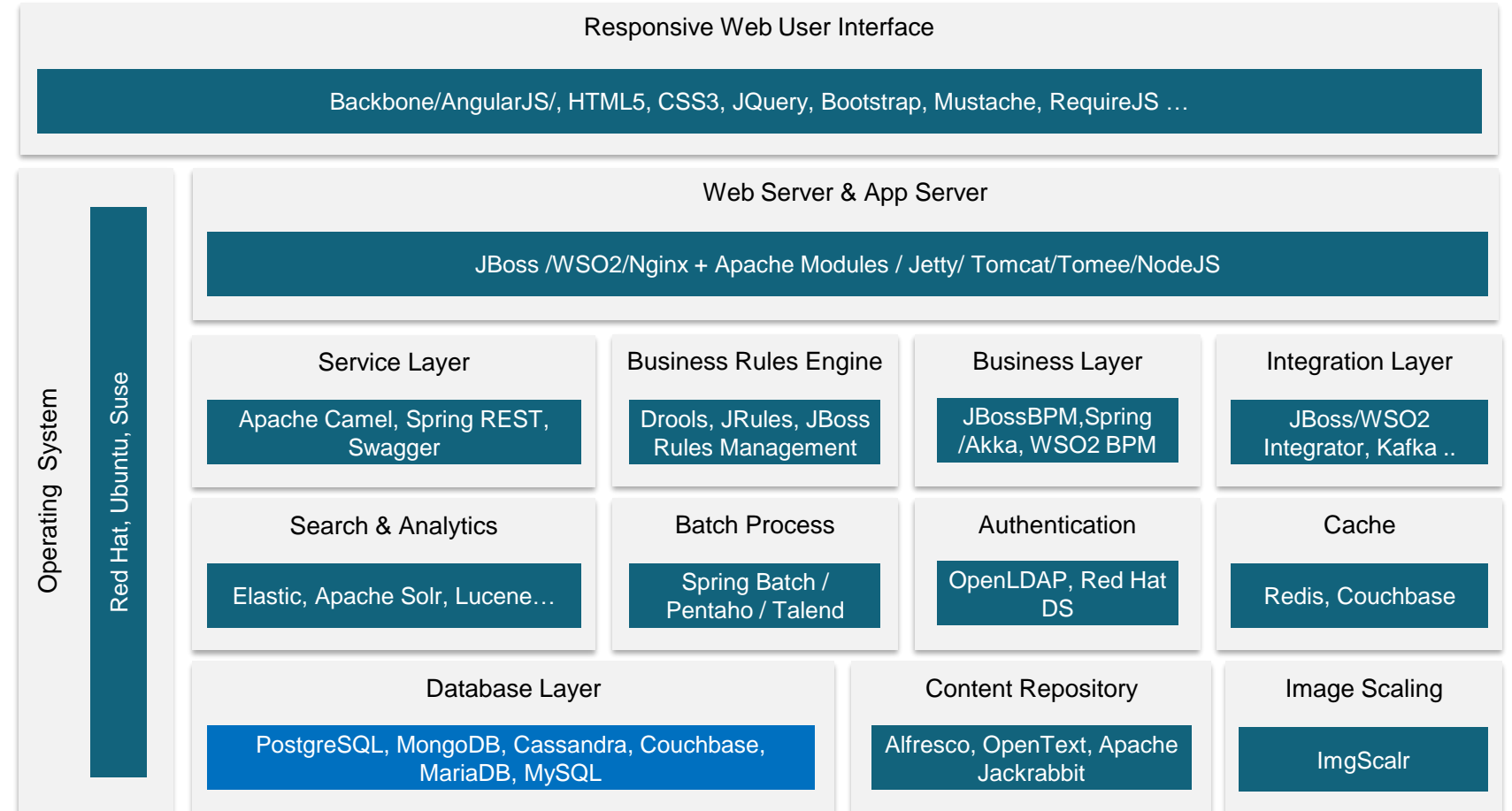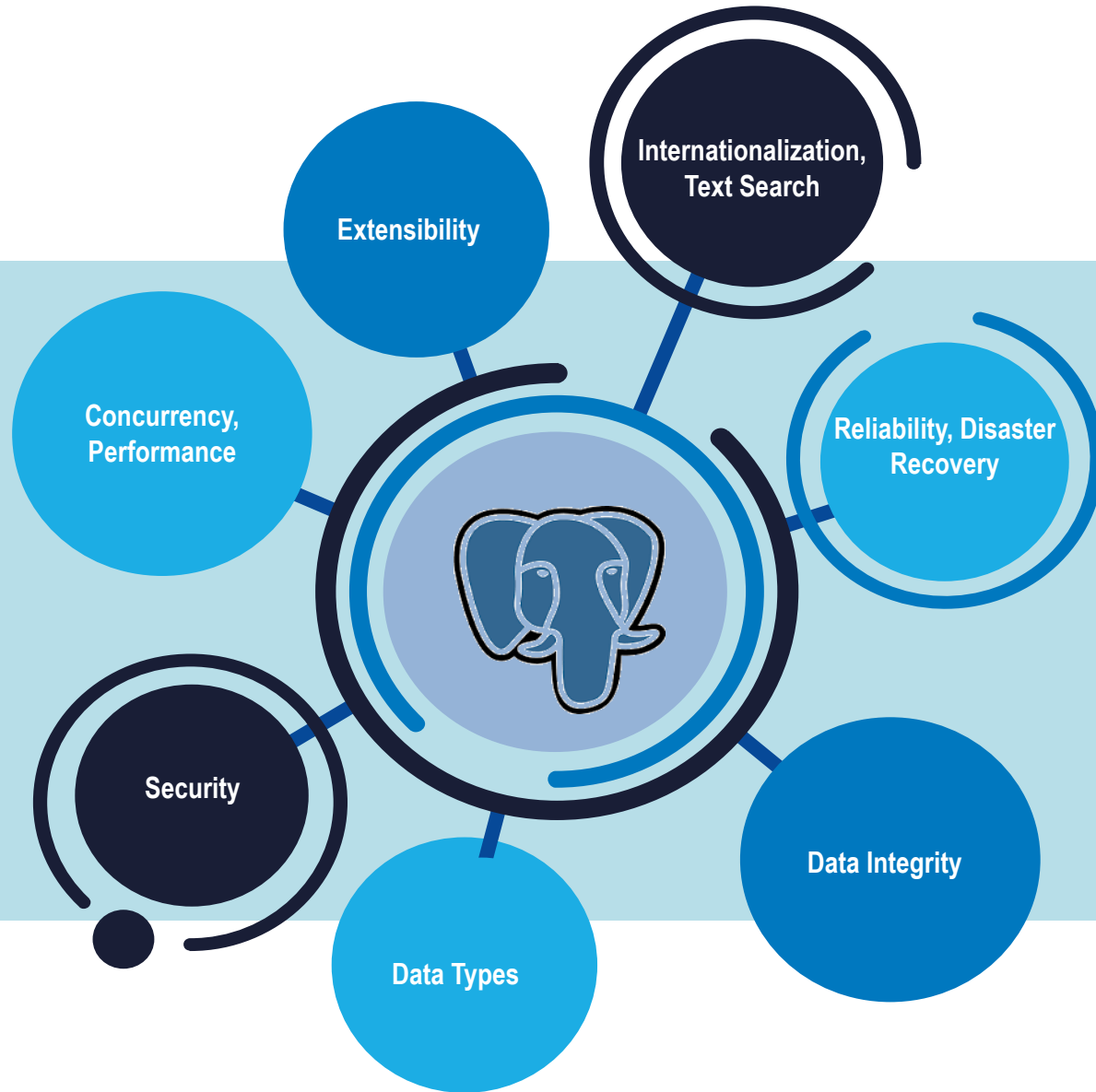Navigate your next

…THAT REQUIRES BOTH BREADTH AND DEPTH OF TECHNOLOGY KNOW-HOW

OPEN SOURCE INNOVATION IS VERY STRONG IN THE DATABASE LAYER

Responsive Web User Interface

Backbone/AngularJS/, HTML5, CSS3, JQuery, Bootstrap, Mustache, RequireJS …

Operating System

Red Hat, Ubuntu, Suse

Web Server & App Server

JBoss /WSO2/Nginx + Apache Modules / Jetty/ Tomcat/Tomee/NodeJS

Service Layer

Apache Camel, Spring REST, Swagger

Business Rules Engine

Drools, JRules, JBoss Rules Management

Business Layer

JBossBPM,Spring /Akka, WSO2 BPM

Integration Layer

JBoss/WSO2 Integrator, Kafka ..

Search & Analytics

Elastic, Apache Solr, Lucene…

Batch Process

Spring Batch / Pentaho / Talend

Authentication

OpenLDAP, Red Hat DS

Cache

Redis, Couchbase

Database Layer

PostgreSQL, MongoDB, Cassandra, Couchbase, MariaDB, MySQL

Content Repository

Alfresco, OpenText, Apache Jackrabbit

Image Scaling

ImgScalr

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POSTGRES IS PROPELLING THE OPEN SOURCE RDBMS REVOLUTION IN G2K ENTERPRISES

Internationalization, Text Search

Extensibility

Concurrency, Performance

Reliability, Disaster Recovery

Security

Data Integrity

Data Types

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WE ARE SEEING THREE MAJOR PATTERNS IN G2K ADOPTION OF POSTGRES

Usage Patterns

RDBMS Migration

Migration from proprietary RDBMS to PostgreSQL in order to reduce IT spend and to simplify IT landscape

60%

Cloud Migrations

Migration to Cloud using PostgreSQL as the target RDBMS

30%

Green-Field Dev

New development leveraging power of PostgreSQL to speed up Go-To-Market

10%

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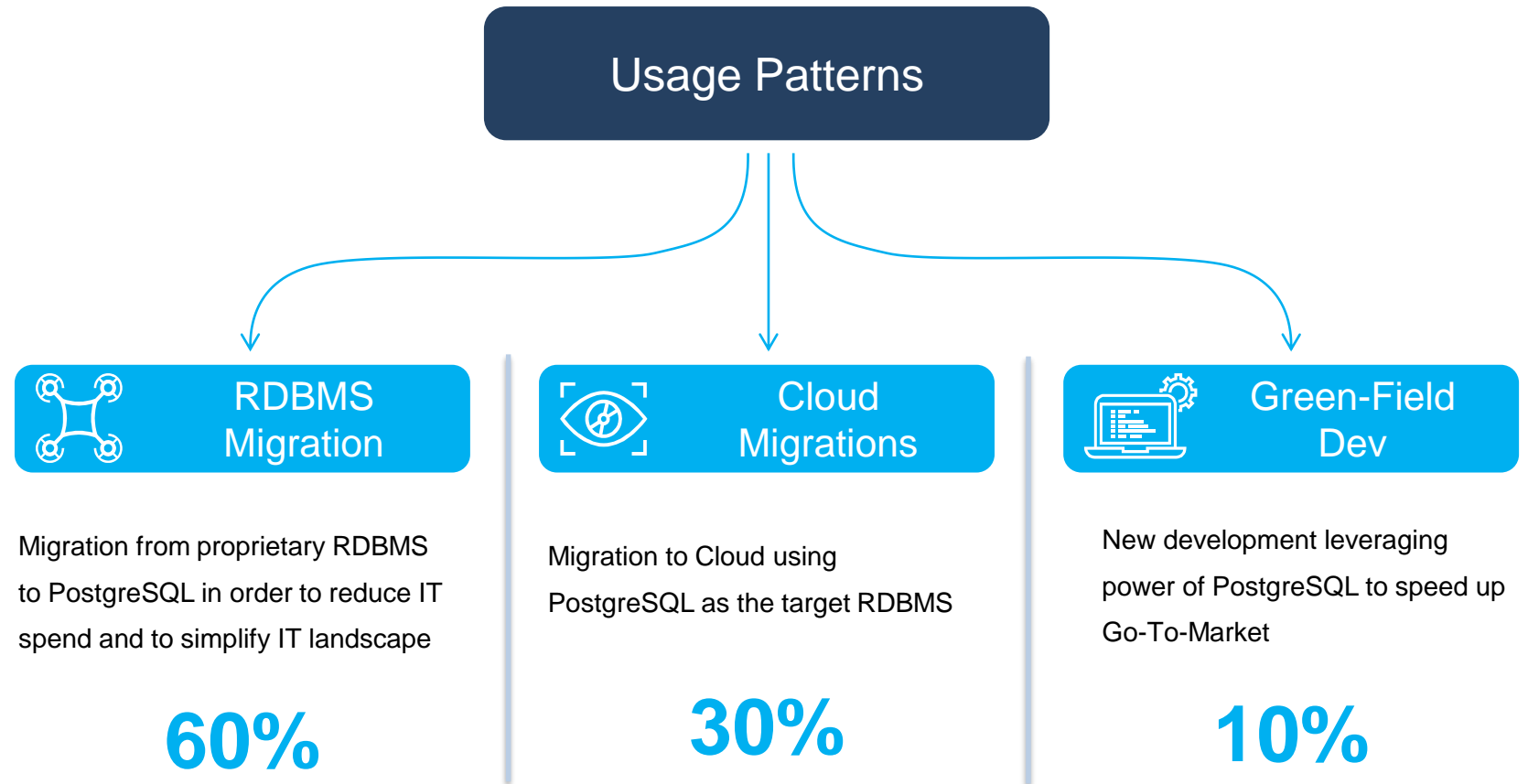
SOME KEY EXAMPLES

Asia-based financial services group

- Core banking application running on-prem with proprietary database
- Needed to be made cloud-native
- Implemented oeCloud version of Finacle

80%

Reduction in database licensing costs by moving to EDB Postgres

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SOME KEY EXAMPLES

High-speed broadband network provider

- Cloud migration for geospatial system that supports network planning
- Storage capacity size of data to be initially 4 TB with upper limit of 100 TB, Number of concurrent users ~550.

500K AUD

Annual cost savings by choosing RDS Postgres

30%

Increase in performance of system

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SOME KEY EXAMPLES

Oilfield services company

- In-house system for monitoring oil rig performance
- Database centric application with extensive usage of Packages; Procedures; Functions; Triggers; Advanced Queues
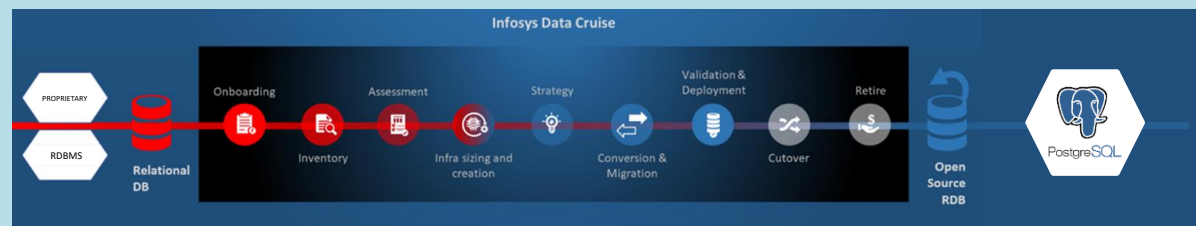
$ 400K
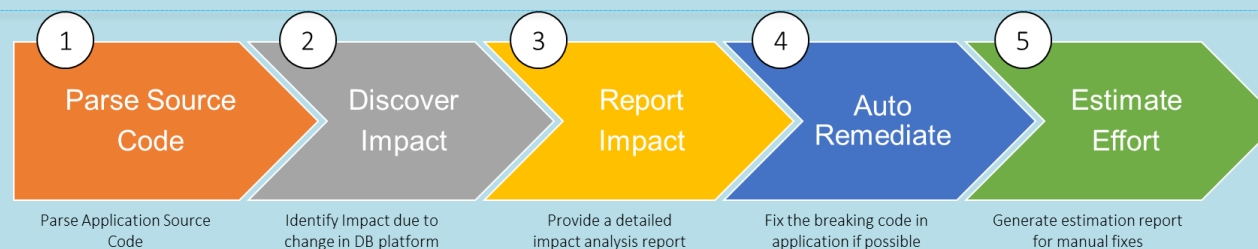License cost savings per year on every instance of the application

$ 3M USD
Cost saving annually by enabling eventual movement to Cloud
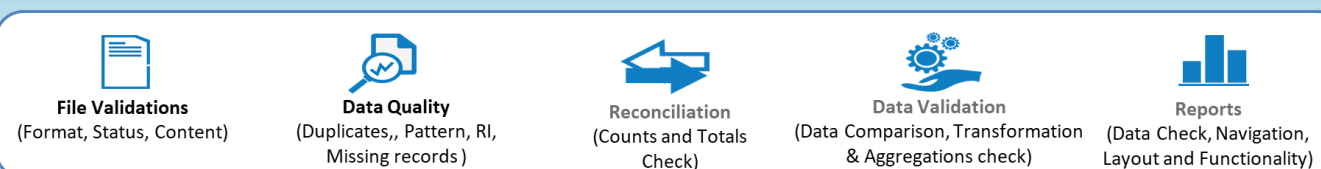
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INFOSYS IS INVESTING HEAVILY *IN TOOLS THAT HELP CLIENTS OVERCOME SOME OF THE BIGGEST HURDLES IN MOVING TO POSTGRES*

Infosys Data Cruise

Infosys Data Cruise

PROPRIETARY

RDBMS

Relational DB

Onboarding
Inventory

Assessment
Infra sizing and creation

Strategy
Conversion & Migration

Validation & Deployment
Cutover

Retire

Open Source RDB

PostgreSQL

Infosys Code Impact Analyzer

1 Parse Source Code	2 Discover Impact	3 Report Impact	4 Auto Remediate	5 Estimate Effort
Parse Application Source Code	Identify Impact due to change in DB platform	Provide a detailed impact analysis report	Fix the breaking code in application if possible	Generate estimation report for manual fixes

Infosys Data Testing Workbench

File Validations
(Format, Status, Content)

Data Quality
(Duplicates,, Pattern, RI, Missing records)

Reconciliation
(Counts and Totals Check)

Data Validation
(Data Comparison, Transformation & Aggregations check)

Reports
(Data Check, Navigation, Layout and Functionality)

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AND OUR PARTNERS HELP SOLVE SOME OF THE OTHER CHALLENGES

Who do I call at 2 AM?

Can I avoid
the code conversion heavy lift?

What about Enterprise features like monitoring, failover and replication?

EDB™
POSTGRES

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OUR PROMISE TO OUR CLIENTS

60-90%
saving on license cost

30-60%
saving on migration effort

Minimal
vendor lock-in

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OPEN SOURCE MOVEMENT –
A JOURNEY WITH ENDLESS OPPORTUNITIES

"

The trouble with the world is that the stupid are cocksure and the intelligent are full of doubt.
Bertrand Russell

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THANK YOU

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