

Converting 20 yr. old Legacy Delphi 6 App into a Robust Modern App

A Real World Case Study



Your Presenters



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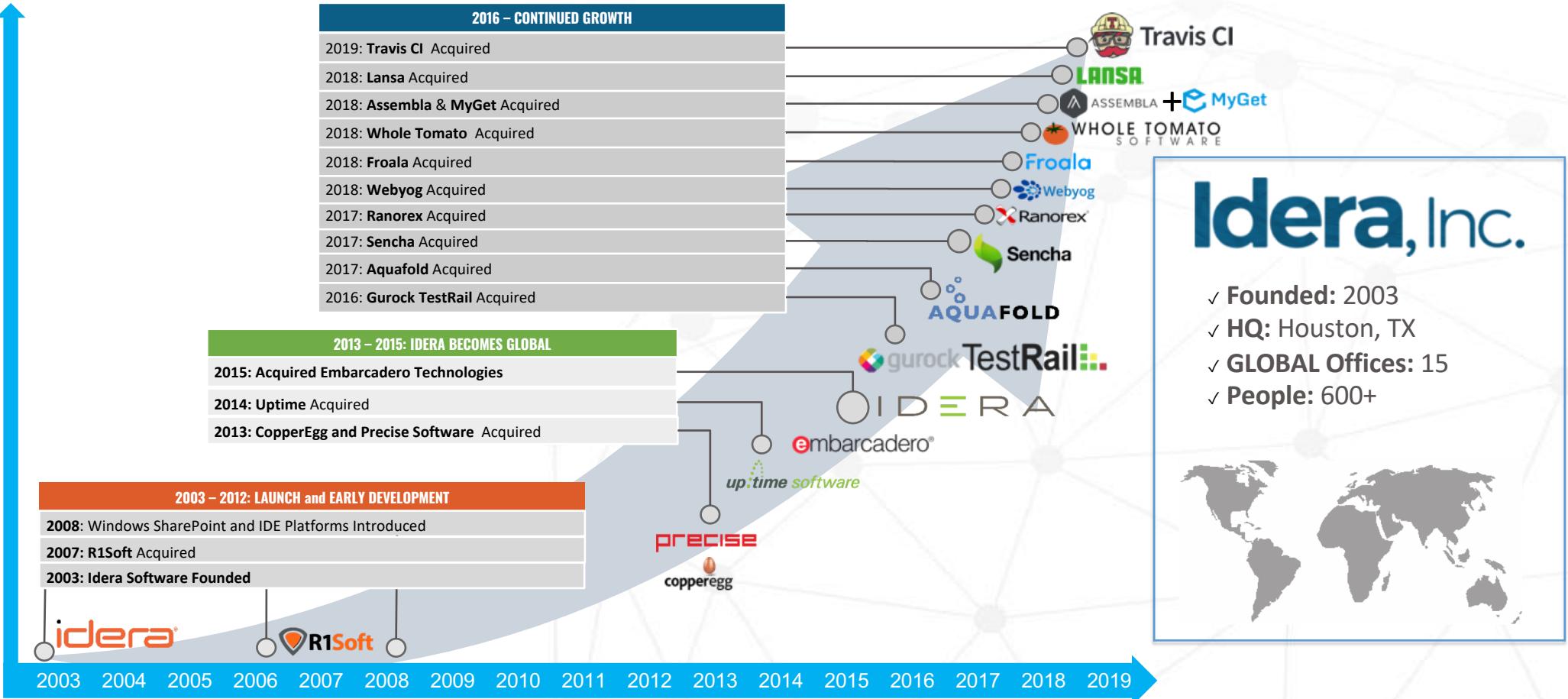
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Focus on Developers!

- Committed to develop and acquire **best-in-class developer tools**
- **Open technology approach** that puts developer choices first (i.e. no alignment with one set of technology or toolchain)
- Global reach with local approach

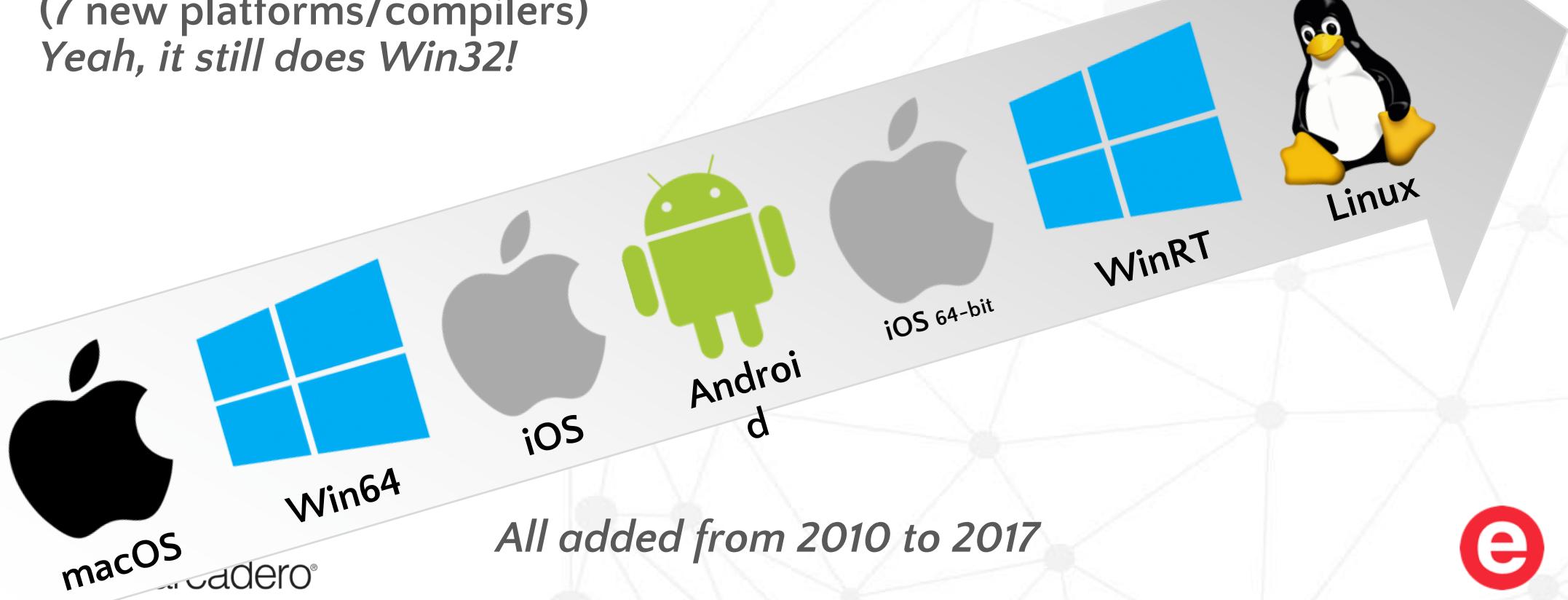


What's New with Delphi/C++?

A lot of growth in just 8 years!

(7 new platforms/compilers)

Yeah, it still does Win32!



Company Profile



- Founded in 1977
- 1977 to 2003: Expands reach throughout Brazil, nationwide coverage in 2003
- 2004: Builds largest parcel sorter in LatAm
- 2016: Opens up the new head quarter in São Paulo – the largest logistics hub in LatAm

Company Profile



- Leader in Brazil's parcel delivery market
- 96 branches nationwide
- 8,000 employees



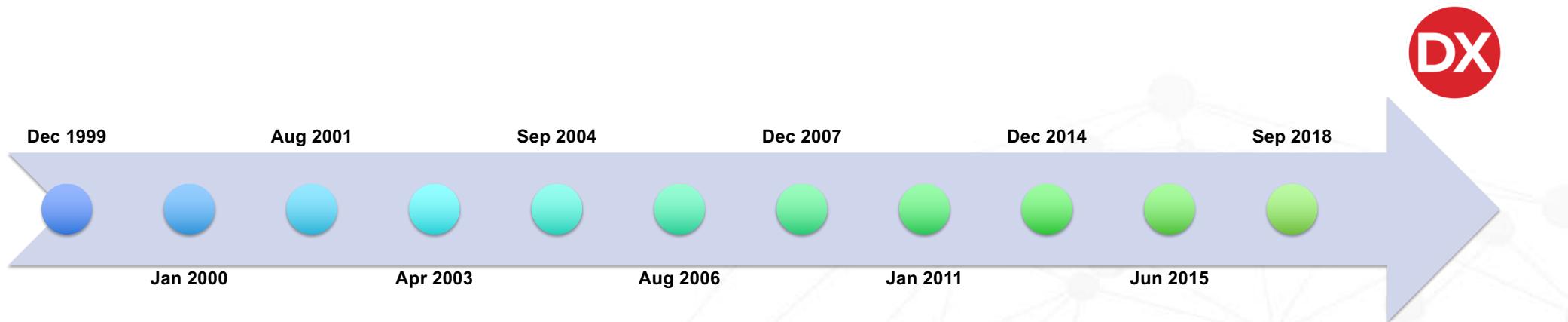
96 million kilometers covered per year
in Brazil



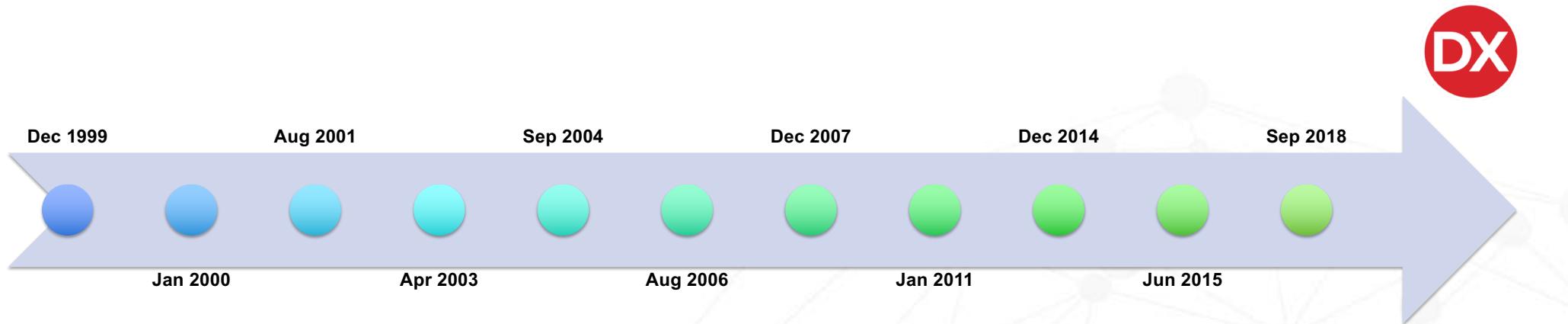
+ **1200000** dispatches per month



60 thousand deliveries a day



- **1999** started the requirements gathering and selected Delphi 6 to create a system to cover the basics of the operational activities
 - At this time they had **16** branches
 - Began developing the client/server app in **2000**



- **2000** The first system version entered in production
- **2001** EDI processing was introduced
- In **2004** the first parcel sorting entered in production
- The concept of advanced loading dock was introduced in **2006**

Company Growth = Scalability Issues



- Client/Server architecture was the standard at this time.
- To deal with remote users, remote terminals was adopted
- Performance and stability issues and infrastructure cost.
With growth, it became monster.
- Growth also means lots of IT consultants trying to sell you solutions.
- In **2007**, a new management team was convinced that they needed to stop developing in-house and start to use what their competitors were all using (SAP, Oracle, etc.)

SAP Implementation



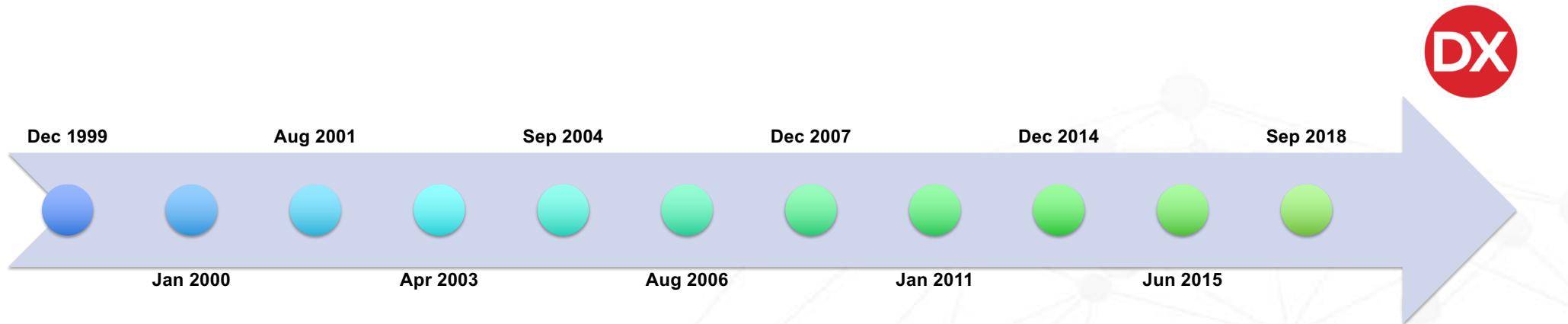
- Project started around ~2007
- Create totally new operational app to replace the Delphi app
- Started working on the ERP, other finance systems (ERP, etc.)
- Delphi app was still functioning for operational side, with small modifications
- Tried for ~3 years, but the new SAP system was never implemented



Oracle/Java Implementation



- ~2011, they decided to go with Oracle/Java
- As a heavy Oracle database user, they were convinced to adopt the Oracle's logistics package
- SAP was kicked out & plan was for Delphi app to also be replaced in total as well
- More successful than SAP in some areas (finance/payroll), but couldn't replace Delphi app fast enough



- Moved to a New Headquarter in **2015**
- Also a new (and huge) parcel sorting entered in production

2014/2015: Delphi Gets Another Chance!



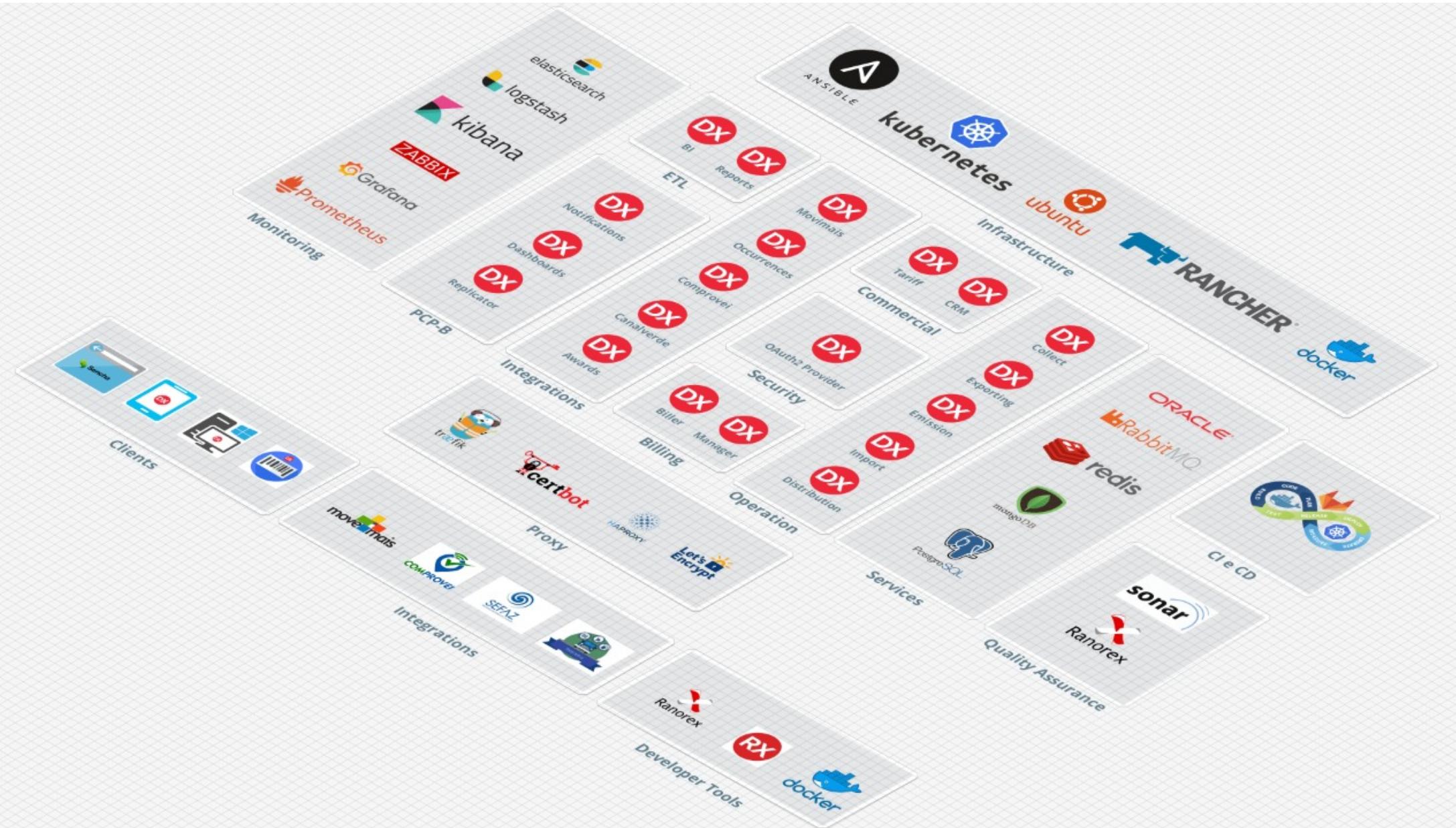
- Operations app requires lots of customizations & fast response times
- Delphi productivity benchmark: They were accustomed to the time it took to develop app customizations in Delphi, did not expect the time it would take in Java.
- Cost of SAP or Oracle services was very high and continuous
- Business rules were already in the app – replicating in new app took time/resource
- Delphi has now a modern architecture to offer (RAD Server, Linux, etc.)



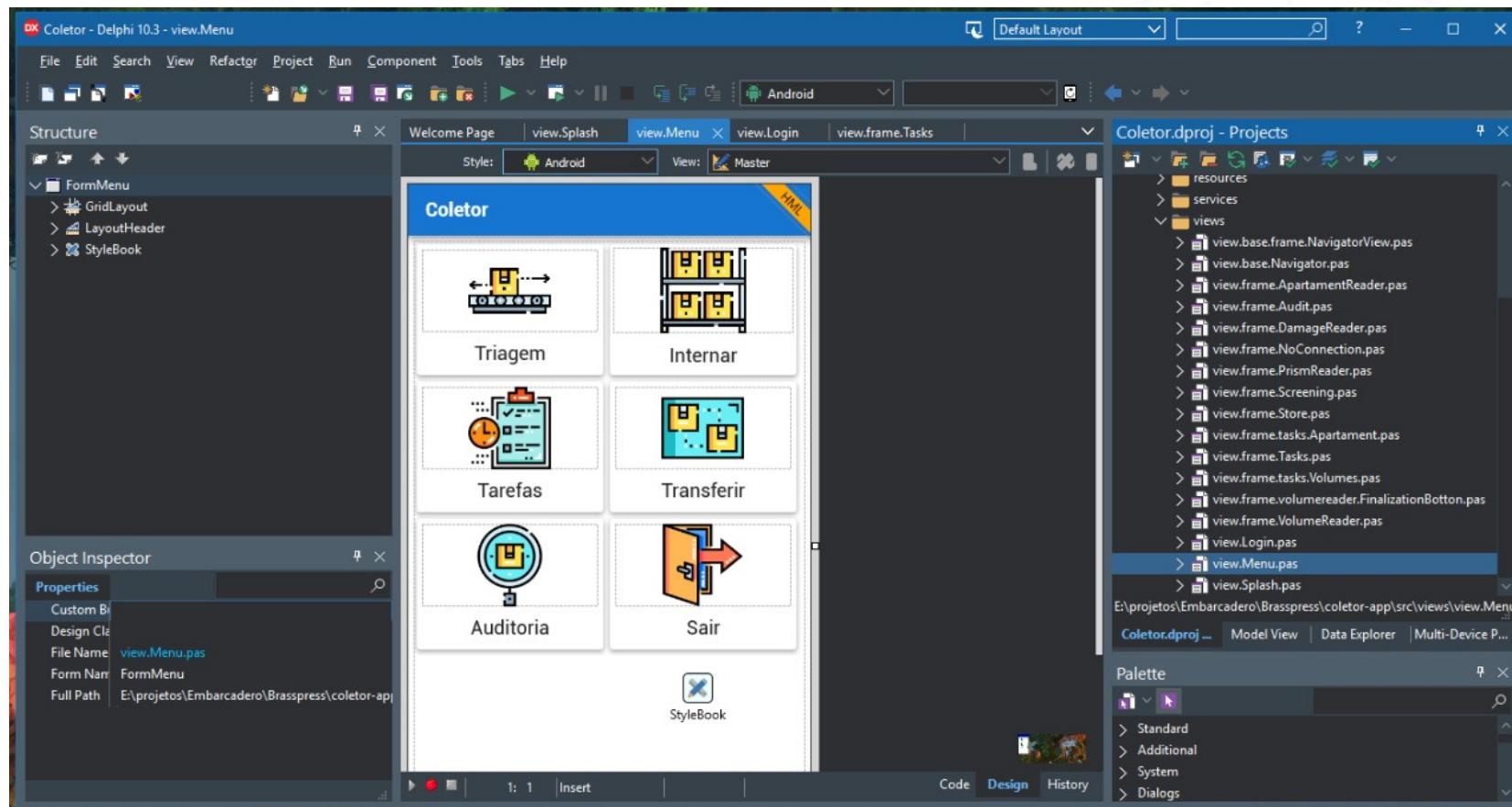
Results & Next Steps

Once the POC was accepted...

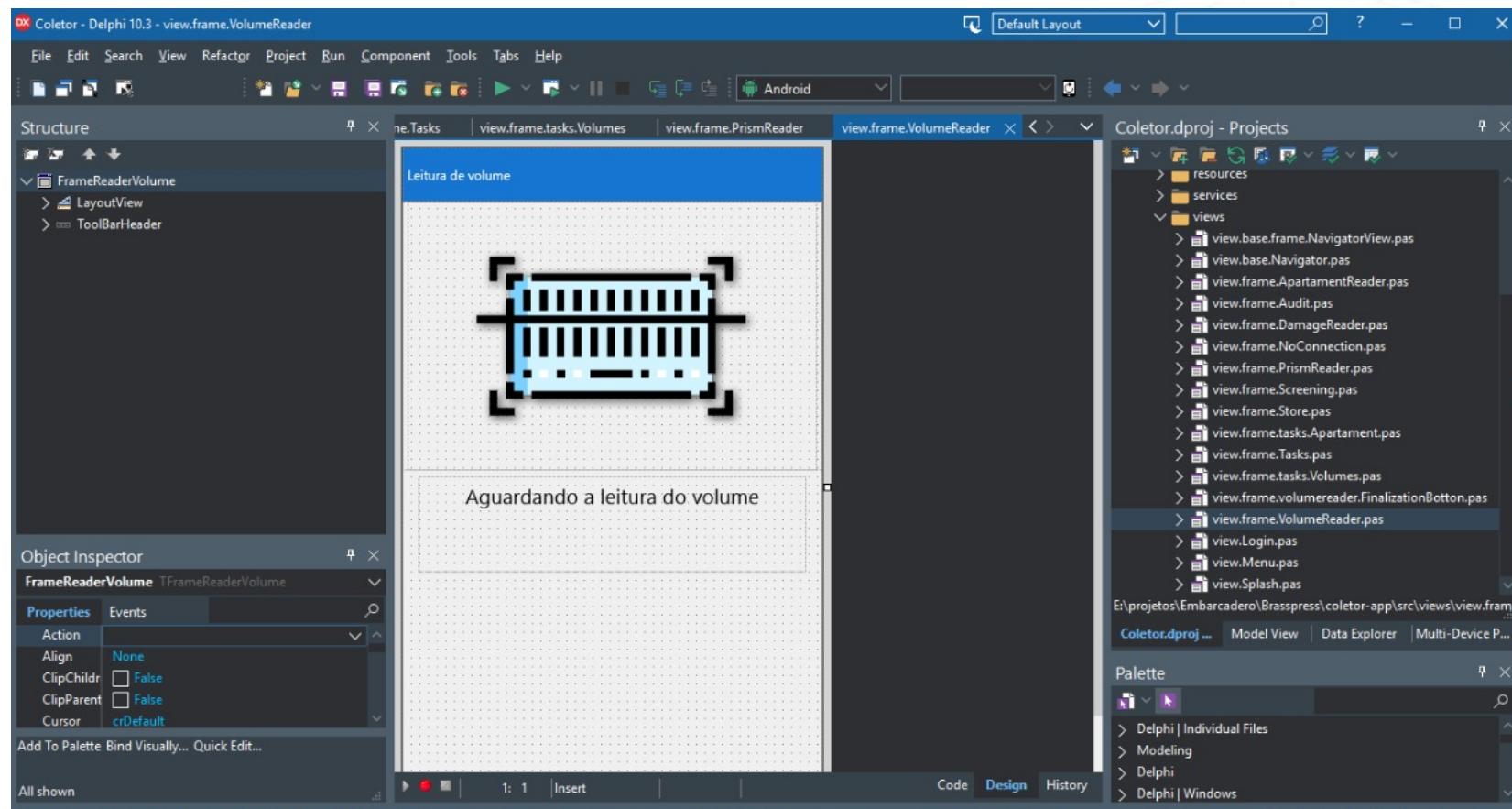
- 1st module went into production within 45 days!
- Huge infrastructure cost savings:
 - Avoiding remote connections w/ 700 Citrix users = project paid for!
 - Overall bandwidth
 - More scalable & elastic
 - App is stable and functioning well, still migrating
 - Goal to eventually reduce Oracle users & all Windows servers (via Linux)



Data Collector App



Data Collector App



Demonstration

- Getting Started with RAD Server
- Docker Overview
- Deploying RAD Server to a Docker Container



Additional Resources for Docker

- Docker Desktop for Windows
 - <https://docs.docker.com/docker-for-windows/install/>
- Docker Desktop for macOS
 - <https://docs.docker.com/docker-for-mac/install/>
- Docker Server
 - <https://docs.docker.com/install/linux/docker-ce/ubuntu/>
 - [Https://docs.docker.com/install/linux/docker-ce/fedora/](https://docs.docker.com/install/linux/docker-ce/fedora/)
- <https://docs.docker.com/get-started/>
- <https://www.docker.com/resources/what-container>
- <http://techgenix.com/getting-started-with-containers/>
- <https://blog.aquasec.com/a-brief-history-of-containers-from-1970s-chroot-to-docker-2016>
- <https://www.comparitech.com/net-admin/docker-vs-virtual-machines/>



Additional Resources for RAD Server

- http://docwiki.embarcadero.com/RADStudio/Rio/en/RAD_Server_Overview
- <https://community.idera.com/developer-tools/b/blog/posts/new-rad-server-ems-articles-resources-and-ebook>
- <https://www.code-partners.com/rad-server-learning-resources/>
- <https://community.idera.com/developer-tools/b/blog/posts/rad-server-beyond-the-basics-webinar-replay-and-code>

Questions?