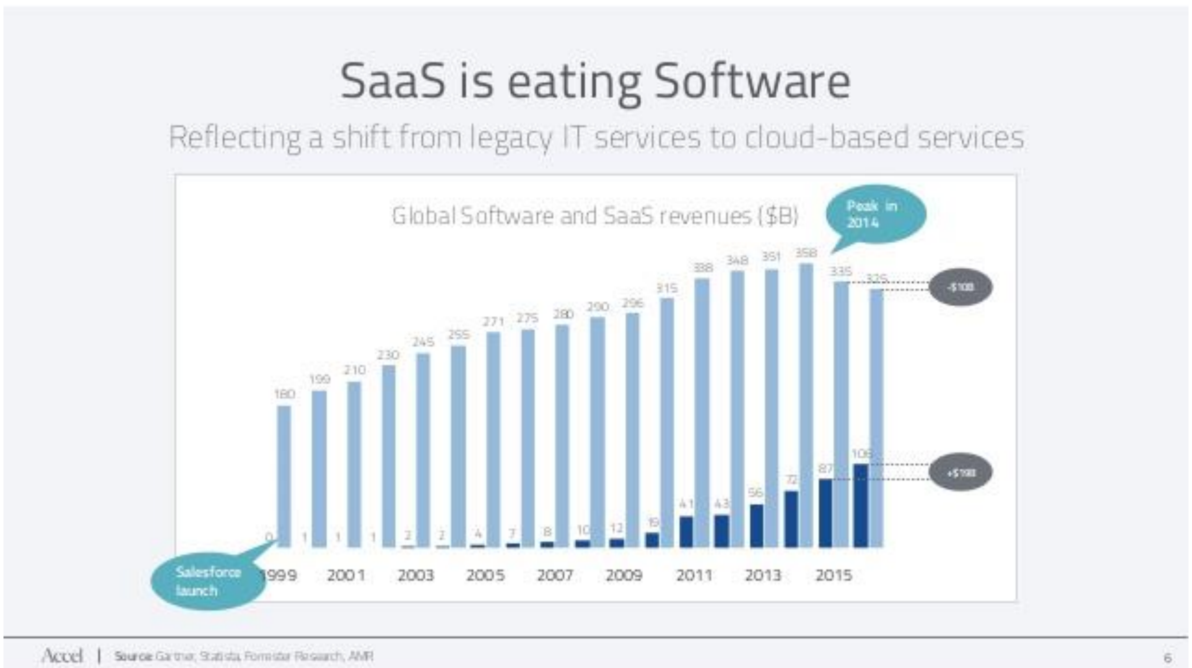
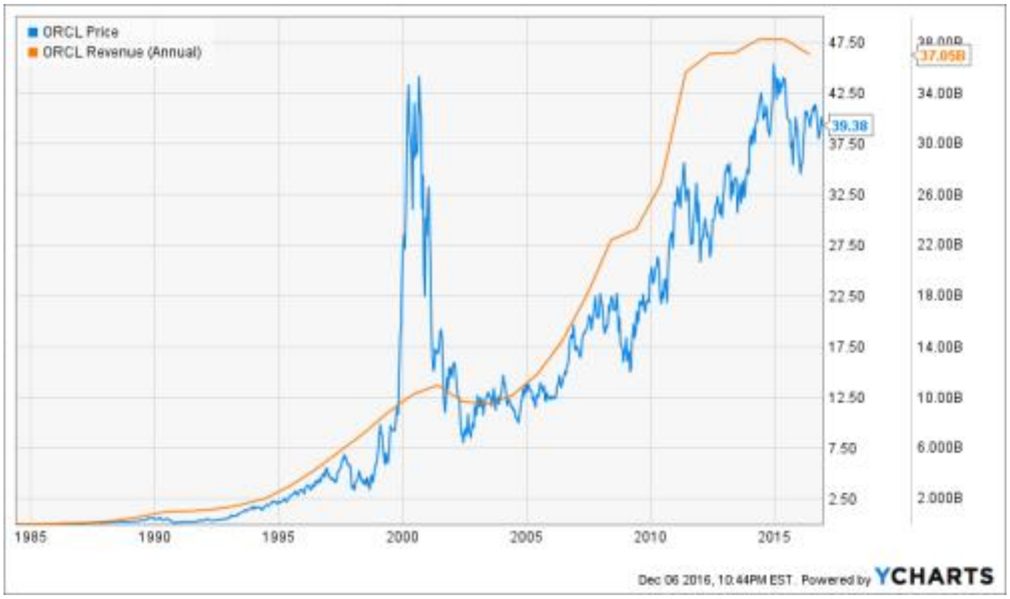
Background and Trend

- Trend: shift from **on premise** to **on the cloud**. Software is being offered as a **service** (SaaS). Customers purchase a subscription to the service rather than a license.
- Benefits of transition for company undertaking it:
    - Recurring revenue through subscriptions.
    - Higher operating margins, greater operating leverage (lower variable costs from distributing and managing software online), and further scaling capabilities.
    - Ability to generate greater revenue relative to on premise software after certain year. Ex. Oracle Marketing software. $5000 for a single on premise license vs. $2000 per year as software as a service. Revenue generation from subscription model surpasses on premise model after 2.5 years.
    - Enhanced market opportunity as software becomes more accessible due to lower upfront costs and no commitment (no fixed contracts). Allows for greater adoption and market opportunity.
- **Effect of the transition/opportunity**: As a result of the transition, revenues decline over short-run as annual subscription fees replace one-off license fees. Thus, on a like for like basis, companies lose the flow through of those license fees. However, if churn is kept under control, companies can generate greater revenue over the long run due to the recurring payments. Adobe is the perfect example of this transition. Since abandoning the license model and adopting a subscription based revenue model in 2013, the stock has moved up 162%.



- According to International Data Corp. (IDC), this year will be an "inflexion point" in which subscription-based enterprise software deployments will replace software licensing. IDC projects subscriptions will grow 20% and licensing will decrease 1.7% for the top on premise vendors.
- Global SaaS revenues are expected to grow by 22% this year to $19 billion, while traditional software revenue is decreasing by $10 billion. Accel Partners says that for every $2 dollars of SaaS revenue created, $1 of software revenues is being eaten.
- The global market for SaaS will expand by 27.9% CAGR from 2015 to 2022 to reach $164.3 billion according to Transparency Market Research.

- **Oracle** is a good example of a company currently going through the transition. Transferring on premise software (ex. E-Business Suite, Hyperion and Siebel) to cloud. No top line growth since 2012. Revenues fell in Q1 2016 earnings report. Saw 77% rise in SaaS revenue while on premise fell 11%. However, starting in 2018, revenues are projected to rise and margins are set to improve as subscription-based revenue model catches up and surpasses on premise segment.
  - Other factor to note: $9.3 billion acquisition of NetSuite. Will accelerate transition. Cloud revenues will make up 16% of total sales.



SaaS in Europe

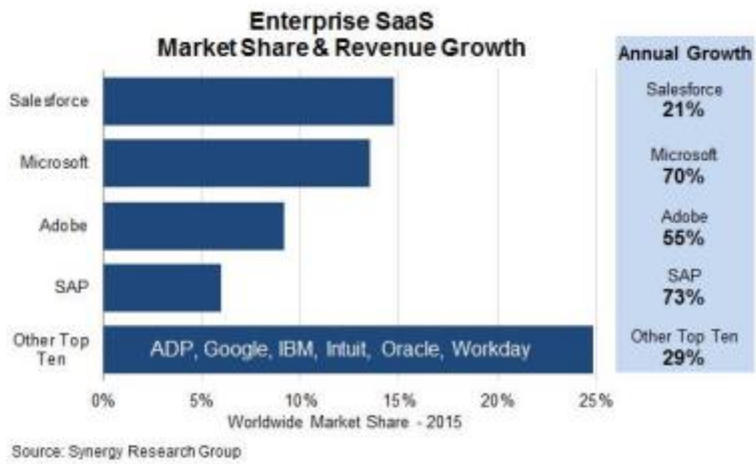
- The EU is relatively untapped. While 54% of businesses in the US use the cloud (from Neovise), only 19% of EU28 enterprises use the cloud (from Eurostat).
- IDC states that though the US holds 68% of the public cloud services market compared to the EU'S 19%, it forecasts that by 2018, the US will lose 9% of the market while Europe gains 4%.

Top software enterprise firms in Europe by revenue (US $M)

Company	Ticker	Location	Revenue (US $M)	Software revenue as % of total revenue	SaaS + PaaS % of software revenue
SAP	ETR: SAP	Germany	18,777	81%	8%
Wolters Kluwer	AMS: WKL	Netherlands	4,880	32%	8%
Dassault Systemes	EPA: DSY	France	3,038	89%	3%
Sage Group	LON: SGE	UK	1,762	98%	2%
Software AG	ETR: SOW	Germany	857	75%	

SAP

- The Business: SAP is built around HANA, which is a platform that allows customers to use the SAP Business Suite and then run analytics on the data generated. SAP HANA is an in-memory database, and allows quick access to data. Thanks to SAP S/4HANA, the newest generation of business suites that was released in 2015, the platform can be run either on premises or on the cloud as SaaS (involves a recurring fee). Therefore, business applications like SuccessFactors or Ariba, which already operate under a SaaS model, can be accessed directly through SAP S/4HANA cloud.
- SAP has one of the broadest suites of cloud offerings, which it built largely by acquiring high-growth cloud companies. It has continued to pursue this strategy, recently focusing on the Internet of Things (IoT) and SaaS.
- As shown below, SAP is seeing the greatest growth in its SaaS segment.



- Net income has fallen from $4.789B on 12/2011 to $3.400B on 12/2015. Revenue has stagnated since 12/2014.
- The company has seen high cash outflows as it made strategic acquisitions and built out its S/4 platform (while migrating SaaS applications to HANA). Though the acquisitions have allowed SAP to expand its cloud offerings, the release of the S/4 platform has marked a new era in cloud enterprise computing as SaaS becomes widespread. As these initiatives get built out, margins should improve as net income rises.
- SAP is forecasting revenue growth at a CAGR of 6% through 2020, which would represent a 100% rise in the amount of cloud subscriptions and 10% fall in all other lines of business shrinking. Given revenues outside of cloud subscriptions have increased instead of falling, these projections seem to be fairly conservative. The rise in revenues is largely due to the fact that S4/HANA is being offered on premise as well as on the cloud, and many customers have chosen to move parts of their business to the cloud while retaining some on premise functionalities.

- Additional point: SaaS (as well as PaaS and IaaS) and cloud computing are crucial to the Internet of Things (IoT).
  - Intelligent devices need software that can be distributed through XaaS products. Large enterprise software firms like SAP, Salesforce.com and Oracle have developed a suite of SaaS products to integrate IoT.
    - For example, SAP's HANA platform provides customers with geo-processing, series data, and location services for their IoT devices. It also allows customers to build their own applications through the SAP platform (PaaS).
    - SAP has made investments worth $2.2 billion to expand its IoT operations and has labeled these initatives "Leonardo". Siemens has used SAP's big data applications to analyze data generated from its devices.
    - IoT is a longer term opportunity that should help drive top line growth in 2018 and beyond.
  - Market opportunity: Bain predicts that by 2020 annual revenues could reach $470 billion for IoT vendors that sell hardware and software solutions. Additionally, by 2021, IoT software revenue will reach $379 billion by 2021, 23% of total revenue (from Research and Markets)

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