



salesforce

# THE NEW AGE OF ANALYTICS

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## *Introduction*

# THE DATA OPPORTUNITY

People don't listen to the data that's begging to tell them useful things. Today's "digital universe," as described by IDC this April, comprises 4.4 trillion gigabytes: more than one-fifth of that data would be useful, it's estimated, to tag and analyze, but less than 5% is being put to work. Potential solutions to the world's defining problems—in health, sustainability, food security, logistics, education and other institutions of society—are being either ignored entirely, or buried in reports or spreadsheets that answer the wrong questions too late to be useful. It's time to fix this.

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## Chapter 1

# TIME FOR A BETTER TOOL

Companies cannot afford to ignore their data any longer. It's long past time to fix this problem that's been recognized for at least forty years. "The advent of on-line inquiry was slow to take hold because of the expense of coding and running the programs," mournfully notes a report written in 1974 that hopefully predicts a new beginning for interactive analysis... based on APL, a famously terse mathematical language that even required its own special keyboard. Somehow, that never quite took hold.

After forty years of turning the Moore's-Law crank, many would like to think that [plummeting costs of processing](#)—and huge improvements in display and interaction technologies—would be enough to get it done. Many are eager to sell that vision, but it's merely coupling a bigger engine to a child's electric train. You can feel the wheels falling off when someone sends out a plaintive email, "Please don't run any big reports during quarterly close."

How perverse is it, to let centralized processing power limit interactive exploration, while personal devices with (what used to be considered) workstation power spin their wheels waiting for something to do?

It's inexcusable to preserve the bottlenecks that have made analytics under-deployed, under-used, and less effective than they should be in opening up new avenues of thought and action.

Directly attacking those bottlenecks is the Salesforce Analytics Cloud, officially announced on October 15, 2014 (after [less than rigorous containment of the surprise](#)). Based on EdgeSpring technology, further developed at salesforce.com following a June 2013 acquisition, the Wave analytics platform that powers this new offering makes three decisive breaks from the legacy analytics approach.

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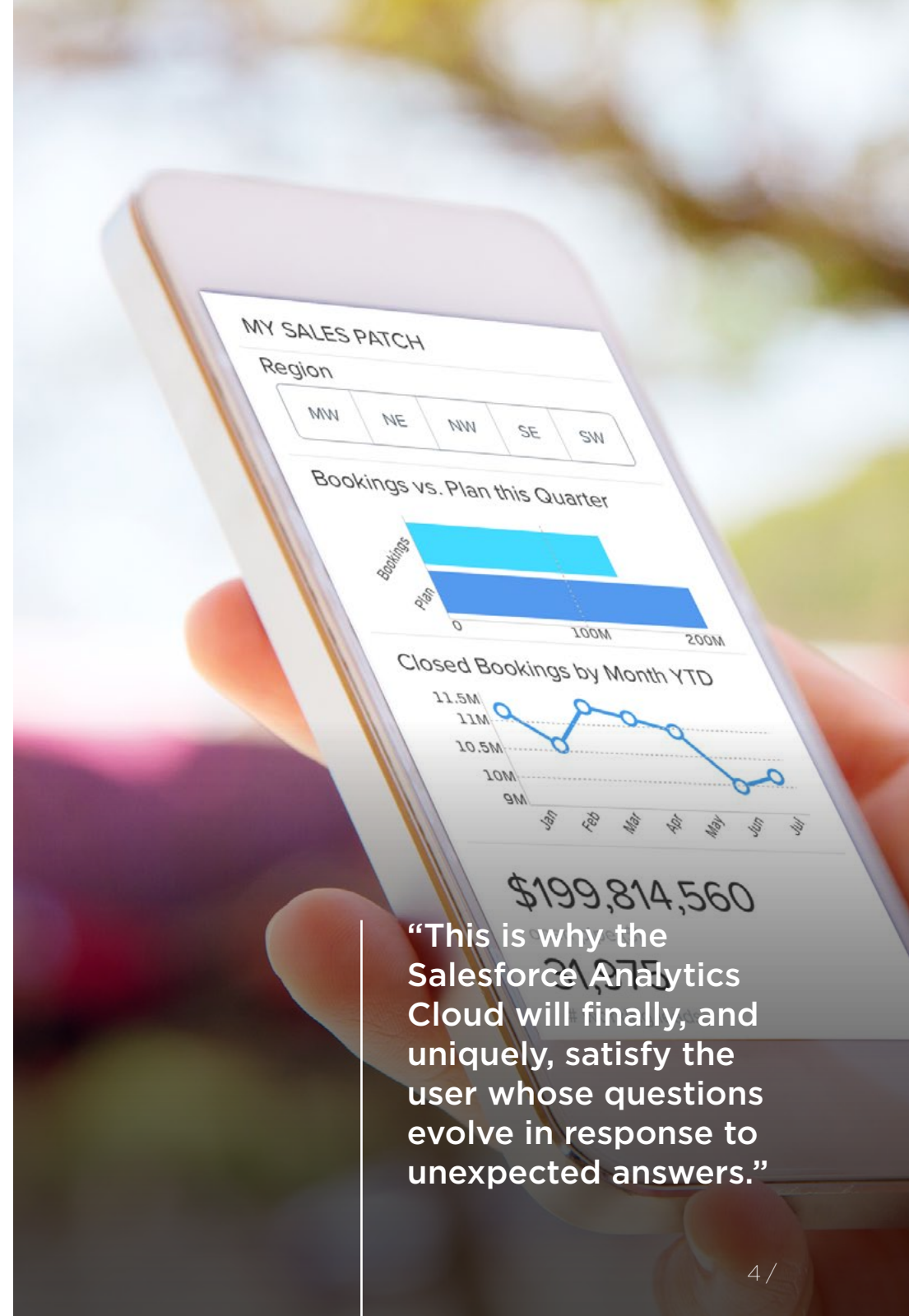


## Chapter 2

# 3 BREAKTHROUGHS OF THE WAVE PLATFORM

First, Wave reflects what's been learned from two decades of seeing how people actually find things in the digital universe. The Search Wars were fought in the 1990s between the library scientists of Yahoo—most people don't know that "Yahoo" is actually an acronym, for "Yet Another Hierarchical Official Oracle"—and the PageRank algorithm of Google, which enabled information's structure and relevance to emerge rather than trying to impose it up front.

It's pretty clear which of these approaches [has no future](#), as Yahoo [announced in September](#) the year-end retirement of its "Yahoo Directory." Wave is based on principles of indexed search, rather than static taxonomy: this is why the Salesforce Analytics Cloud will finally, and uniquely, satisfy the user whose questions evolve in response to unexpected answers.



**“This is why the Salesforce Analytics Cloud will finally, and uniquely, satisfy the user whose questions evolve in response to unexpected answers.”**

Second, Wave reflects the increasingly varied structure of the data that people are examining today. A traditional, row-and-column data store will almost always combine too much with too little. It will waste space on empty columns that aren't needed to describe simple things, while at the same time having too few columns to characterize more complicated things. It's compromised by the legacy of a rectangular table. With its schema-free architecture, Wave can let data say what it needs to say without wasting resources, and without delaying projects to haggle over no-longer-necessary decisions.

Third, Wave is built for a world in which [people have more interactions with data through mobile apps than they do through desktop browsers](#). Mobility is no longer a subset or an accessory: it's sitting at the grownups' table as a primary tool

for Getting Stuff Done. Recognize, moreover, that "mobile" does not merely mean "one person on a smartphone": as Paul Graham makes quite clear, [the tablet model of direct interaction](#) with data is relevant on devices that range from pocket-size to wall-size. Corning's "Day Made of Glass" videos show us a world in which any object or environmental element might offer us interactive power.

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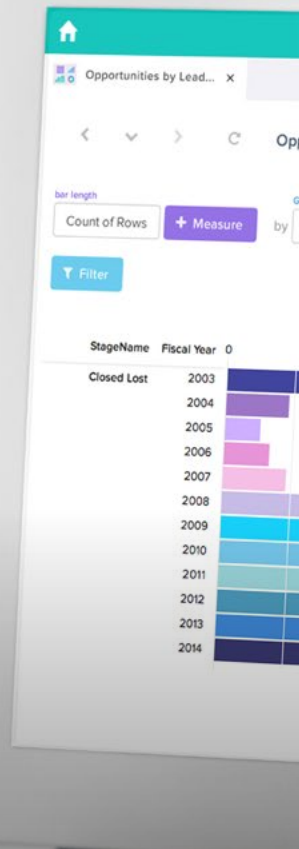
## Chapter 3

# PUTTING NEW TOOLS INTO PRACTICE

Making this useful, and not merely novel, requires two things: make it possible for people to explore the global pool of data from any network-edge device, and make it possible to carve off a piece of data to investigate thoroughly on even a disconnected device. Wave addresses both of these needs, letting users put the growing processing power and intuitive interactions of edge devices to far better use than possible with legacy analytics models.

There's no question that people are behaving differently in a world of continuous connection. They're forming collaborative networks, expecting tighter feedback loops, and executing decisions with a fingertip signature on the nearest piece of magic black glass. Unfortunately, faster execution of uninformed decisions merely gets the wrong thing done sooner—and worse still, [done with more conviction, and less openness to subsequent learning and correction.](#)

The genie of connection can't be put back in the bottle, so it had better become better informed. Mass quantities of data are ready to hand, but that's not information until it's answering questions and not merely stating facts.



**“There’s no question that people are behaving differently in a world of continuous connection.”**

## Conclusion

A better, faster, but more expensive way of answering 20th-century questions on 20th-century hardware is a dead end. Throwing more power (and money) at that flawed approach will merely hit the wall harder. Distributed processing power, explosion of data volume and complexity, and rising expectations of users to get any question immediately answered anywhere are permanent features of the world in which we'll all be living; the Salesforce Analytics Cloud re-invents analytics to navigate that expanding universe.

## About Peter Coffee



Peter Coffee is VP for strategic research at Salesforce. Before he began writing full-time in 1989, Peter spent eleven years in technical and management positions at Exxon and The Aerospace Corporation. He holds an engineering degree from MIT and an MBA from Pepperdine University.

# ANALYTICS DESIGNED FOR THE BUSINESS USER

Analytics Cloud is designed to bring the most powerful analytics tools directly to the people who need it most. No more waiting. No more schemas. No more hardware. Just your data as it was meant to be used.



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