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Digital Transformation in Latin America

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IT'S A DIGITAL WORLD

We all spend many hours talking about digital transformation at work. At home we book our movie tickets on our phones, make payments using internet banking, and grocery shop on Amazon.

Statistics show that 71% of shoppers in the US and up to 91% in APAC countries prefer to shop online and this tendency is growing around 23% year over year. Up to 58% of these operations are performed via mobile devices like phones and tablets.

Latin American markets are the most active and are shifting from consuming largely global companies' products towards their local products. For example, in Mexico (growing 7% in electronics shopping and 20% in online services between 2017 and 2018), local shops are taking the leading position in the ranking of purchases orders while global players, such as Amazon and Wish, are relegated to 4th or 5th place. In Brazil, the situation is similar; there are currently 66.4 million eCommerce users, with an additional 28.2 million users expected to be shopping Online by 2021. By 2023 these 94.6 million eCommerce users will spend an average of over $300 yearly online.

Growth rate of e-commerce sales in selected Latin America 2017-2018 (Source: Statistica)
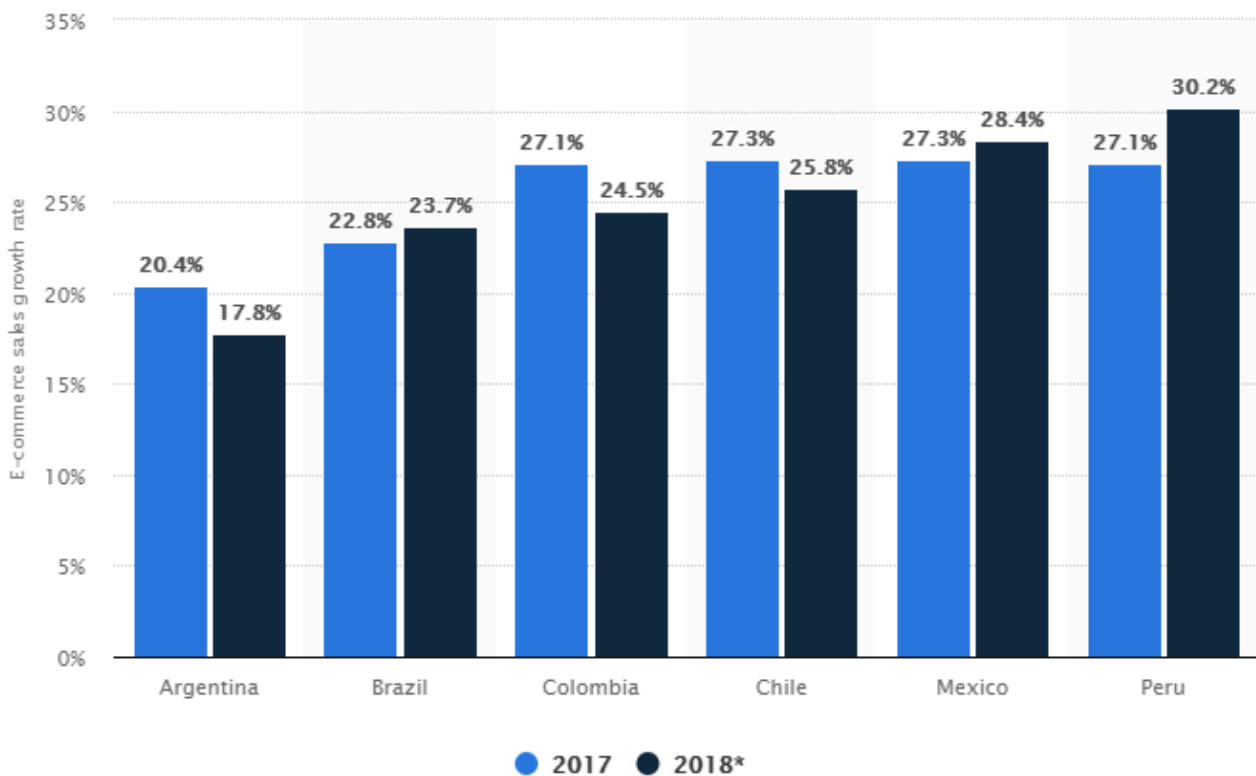
WHERE WILL YOU BE IN 5 YEARS?

Digital transformation is no longer about if enterprises will transform, but about when. Companies that have not embraced transformation, such as Kodak, Blockbuster or Borders have disappeared, and even technology companies like Nokia, that have failed to change with the times, are now struggling to survive.

The accelerated pace of economic change is compressing the lifecycle of businesses and those that don't digitally transform will be rendered irrelevant; and it will happen with remarkable speed, and with little warning.

Digital transformation is not just about technology; it's about redefining your entire business strategy. The degree of difficulty is compounded by the dearth of experienced resources. According to Forrester, in 2017, 74% of companies have a digital transformation strategy, but only 15% have the skills and capabilities to implement it.

The concern for many businesses is that they've already fallen behind and may be too late to get started. Digital speed

Companies that are not agile enough or cannot adapt to economic tides may end up stranded in shallow waters. Today's consumers have countless options so keeping up is the only way to remain relevant, to survive.

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Roughly eight-in-ten Americans are online shoppers; 15% buy online on a weekly basis

% of U.S. adults who ever buy something ...

Online	79%
Using a cellphone	51
Through social media links	15

% of U.S. adults who shop online ...

- Never 20%
- Weekly 15%
- A few times a month 28%
- Less often 37%

Source: Survey conducted Nov. 24–Dec. 21, 2015.
"Online Shopping and E-Commerce"

PEW RESEARCH CENTER

Expected LATAM market growth and retail sales revenue by 2021

MEXICO
USD 59 billion

COLOMBIA
USD 35 billion

BRAZIL
USD 25 billion

ARGENTINA
USD 21 billion

Source: Statista

Digital transformation will enable your company to:

- Generate additional sources of revenue online
- Be more agile in pursuit of new markets and opportunities
- Improve interactions with customers, partners, suppliers and employees
- Increase efficiency
- Improve business decision making
- Implement better governance

To have real impact the transformation must become a part of the fabric of the company and championed by leadership.

A complicating factor is that digital transformation may mean different things to different industries, and a valuable benefit for banking, may not apply to healthcare.

The following is an example of applications for different verticals.

Digital Transformation benefits by Vertical Market

Healthcare
- Telemedicine, Videoconferencing, VR & AR
- Electronic Medical Records, HIPAA compliance
- BigDta for correlating patient's medical information

Retail
- Omnichannel connection, electronic billing
- Personalized sales
- Self-Service

Legal
- Digital expedients on Legal cloud
- Blockchain for encrypcion
- Mobility and Access anywhere.

Manufacturing
- Supply chain management
- Supply-Manufacture- Reseller continuous lifecycle
- Industrial Internet of Things (IIoT) and product line automation.

THE TAO OF TRANSFORMATION

Digital Transformation is a disruptive process and it will not only "transform" your IT department but also will change all aspects of your business, including; the way you relate with your customers, your partners, and your suppliers.

In this document, we will focus on the intrinsic technological requirements, not the business process aspects of the process.

At its core, Digital transformation drives some key changes:

- Every key business process of the company and the interactions with every key constituency are implemented in software and are rapidly evolved to maintain competitive advantage online.
- Data driven applications are deployed on cloud-based infrastructure and every facet of the supply chain is connected through the cloud.
- Real-time data analytics for notifications and abnormality detection (AIOps).
- Big Data to optimize system performance in reaction to change.
- Users now must have a connected device to see the necessary information on cloud.
- Applications should be able to adapt to different environments (on-premise, Cloud, containers, etc.), detect and inform environmental changes and proactively change their behavior accordingly.

THE OMNICHANNEL

The term OmniChannel refers to better introspection of the customer experience by understanding where, when, how, and of course, what he/she wants. It means offering the customers a real-time, on-demand, cloud-based, self-service experience through the convergence of all the channels. With information coming from virtually everywhere (on premise, cloud systems, IoT, mobile applications, etc.) and in real time, it is critical to have applications that can provision these sources of information efficiently, and in real time.

OmniChannel may include:

- Online browser based applications
- Mobile applications (owned and 3rd parties)
- Kiosks
- Telephone Interactive Voice Response
- Social media
- Help desk
- Physical locations (branches, plants, etc.)

One of the most critical components of the OmniChannel strategy is the backend.

As with any other multi-technology support (IoT, Cloud, on-premise, Mobile, etc.) it needs a myriad of connecting elements and workflows to pull, push and normalize the information flows. The business in turns needs to guarantee that these business flows are working correctly, *as they are becoming the bloodline of the digital business.*

### An OmniChannel approach at a Global Fast Food Restaurant
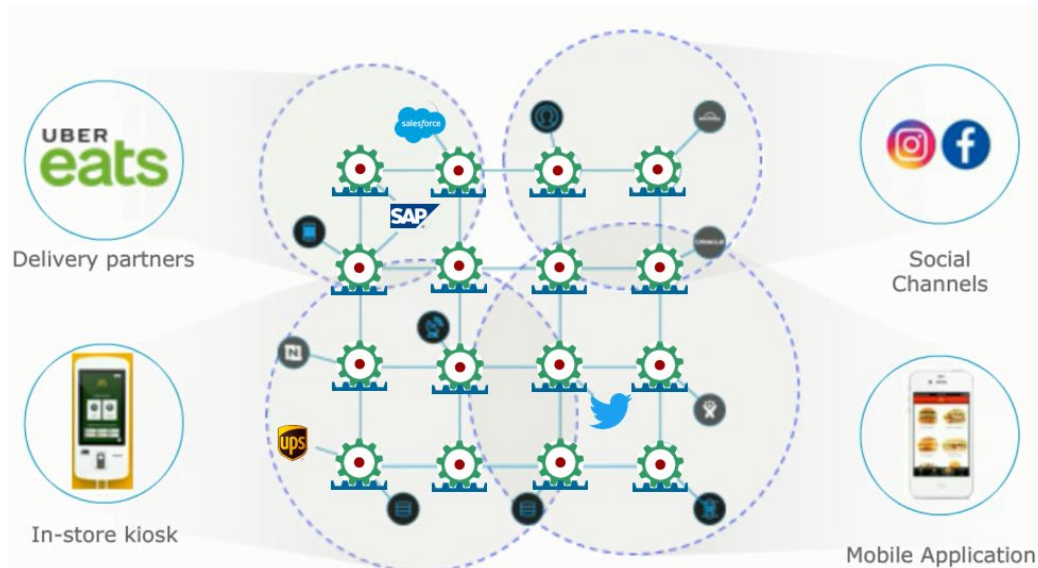
A single business transaction now crosses an average of 35 systems

The new "app" has to interface with every existing store and back end system

ERP AND DIGITAL TRANSFORMATION

ERP systems are in the core of this transformation, as they manage the supply chain and often the order to cash process as well. SAP, the global leader in ERP systems is helping its customers drive Digital Transformation with its own Digital Transformation Platform shown below.
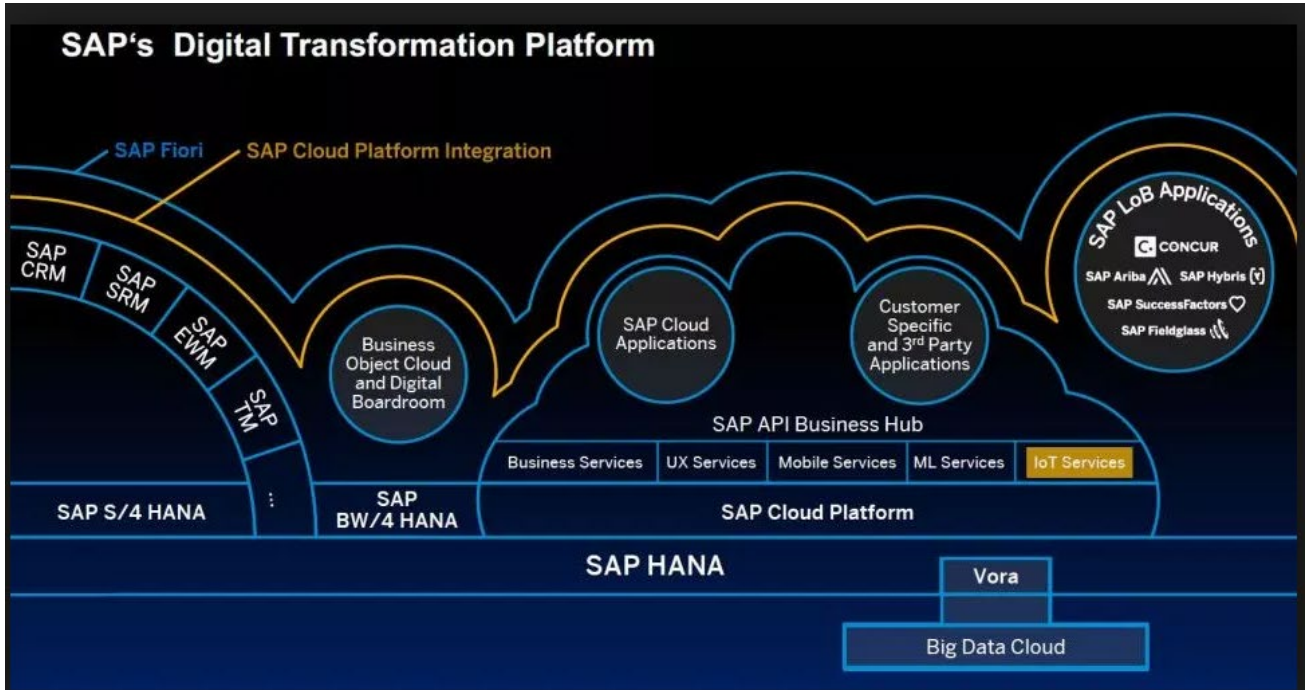

Source: SAP

THE INDUSTRY'S RESPONSE TO THE PRESSURES GENERATED BY DIGITAL TRANSFORMATION

It is an imperative for modern enterprises to compete online and to digitally transform their operations. This places demands upon the scarce resources (people) that can build and operate these digital applications, business services and systems.

The technology industry has responded to the demand to implement business processes in software with a set of innovations. The architecture of applications is being further distributed and simplified around a microservices model. The process of delivering software into production is being automated as much as possible through CI/CD. At each layer of the technology stack new languages, services, and data architectures are being invented to meet new needs. Finally the operation of the environment is now automated.

Innovations and Dynamic Behavior across the Entire Technology Stack
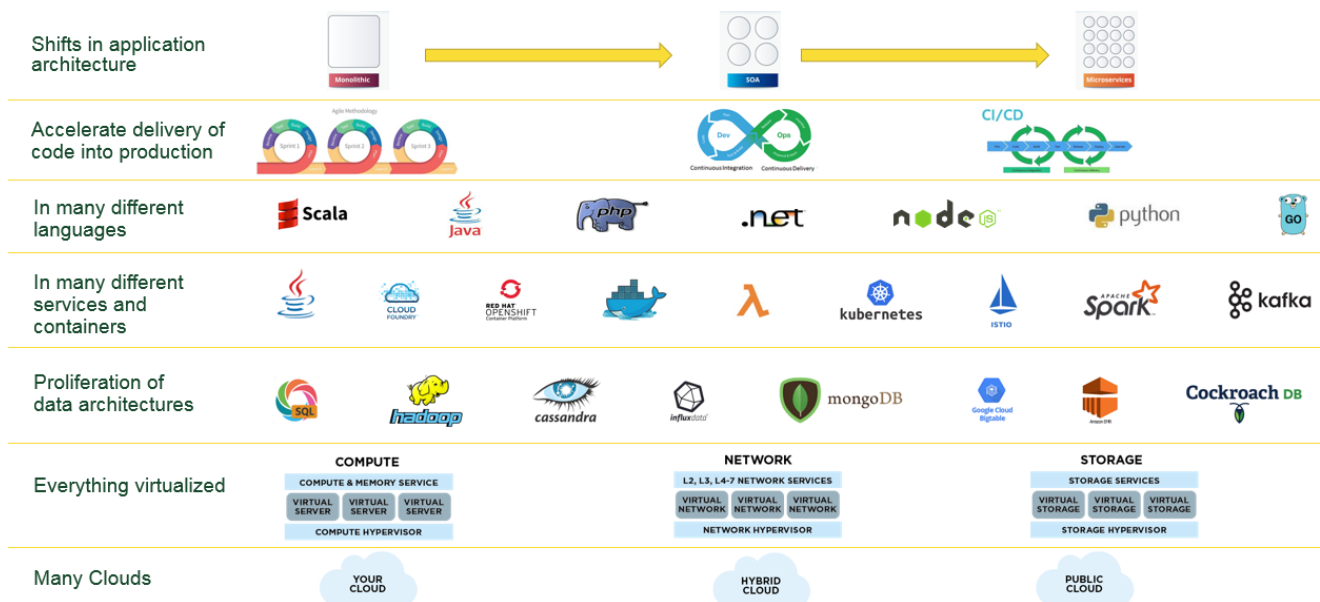
AN UNPRECEDENTED SITUATION IN THE MODERN ENTERPRISE:

- Enterprises must compete and execute online as software vendors (Revenue, Cost Efficiency, Time to Market, Agility, Quality of Service, End User Experience)

- An unprecedented pace of innovation in processes and technology to support the business imperative of digitization creates previously unheard of levels of complexity and diversity.

- Time to market and agility pressures are causing applications to be architected around microservices and released multiple times a day with CI/CD processes leading to more change in production than ever before.

- The need for continuous availability and performance is driving dynamic behavior in virtualized and cloud based compute, networking and storage services.

- All of this has to work flawlessly all of the time and is beyond the scope of any single monitoring vendor to monitor

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A NEW SET OF REQUIREMENTS FOR MAKING SURE IT ALL WORKS ALL OF THE TIME

Many companies still monitor their services using siloed tools. These tools are inefficient, providing a bottom-up view, which fail in modern applications and business services, where multichannel, containers, and multi-cloud environments are the new de-facto service architecture standard. A new concept in monitoring is required; one that can comply with the following conditions:

- The entire stack must now be monitored in the present (1 Min – 1 Sec) to be able to detect service quality issues in real time.
- Relationships across the stack must be determined in instantly
    - What talks to what (traces and flows)?
    - What runs on what?
    - What is a component of what?
- AIOps must be deployed to leverage relationships for automated root cause analysis and remediation.
- The results of system monitoring must be made relevant to business constituents.

It is not sufficient to monitor the IT infrastructure, application, and business services as separated silos. In real digital transformation, all the services components must be observed, correlated, and presented in a single dimension, and easily understood by both IT and the business, supplemented by predictive behavior analysis.

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AIOPS PLATFORMS AT THE CORE OF DIGITAL TRANSFORMATION

Business outcomes cannot be adequately supported and achieved while IT organizations remain in siloed pockets with redundant tools and technologies. For this reason, AIOps Platforms now complement the conventional, siloed IT monitoring systems to cope with the torrent of incoming monitoring data and to discern abnormalities automatically.

By targeting thousands of components from the infrastructure, application and business layers simultaneously, AIOps can correlate, predictively analyze, and self-repair any irregularity, while presenting pertinent visualizations to both key stakeholders and IT operations personnel to quickly understand business service performance.

When properly integrated into a broader capability for data assimilation, integrations, and automation, AIOps can align IT with business in a very concrete way.

Gartner's View of AIOps Platforms
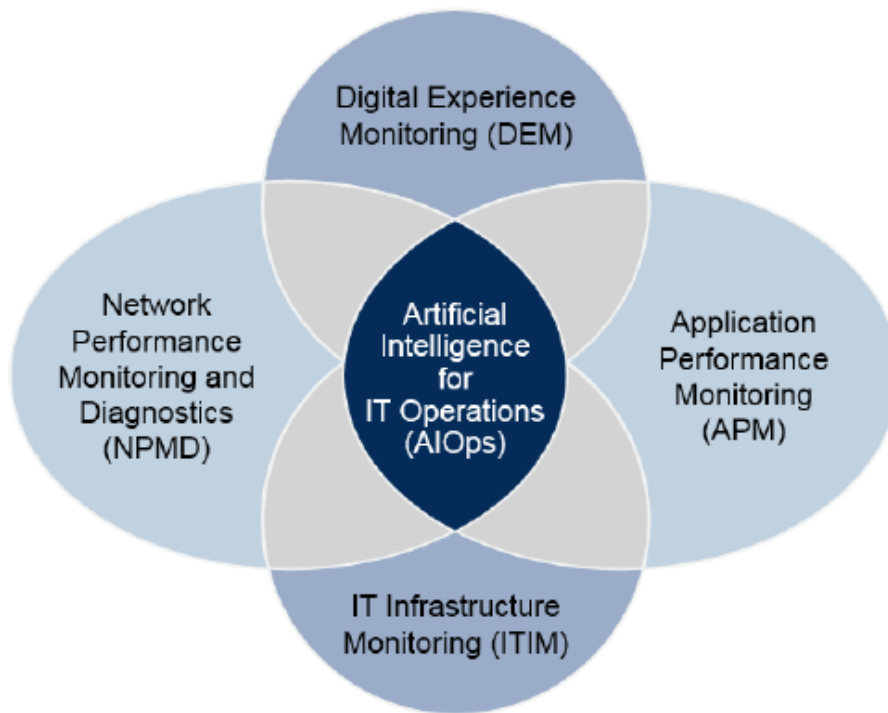
ID: 374388   © 2018 Gartner, Inc.

The features that distinguish AIOps platforms from less advanced implementations of machine learning include the following:

- Assimilation of data from cross-domain sources in high data volumes for cross-domain insights.
- Access multiple data types, e.g., events, KPIs, logs, flow, configuration data, etc.
- Capabilities for self-learning to deliver predictive, and/or prescriptive and/or if/then actionable insights.
- Potential use as a strategic overlay that may assimilate multiple monitoring tools and other investments.
- Integrations that can help unify stakeholders and bridge the political divides across IT and between IT and business stakeholders.
- Support for private cloud, public cloud, SAAS, and on-premise, in one platform.
- The ability to deliver on multiple use cases, such as business service performance and availability management, as well as integrated support for change and change impact awareness, and enabling more successful cloud migrations, resulting in greater optimizing of critical business outcomes.
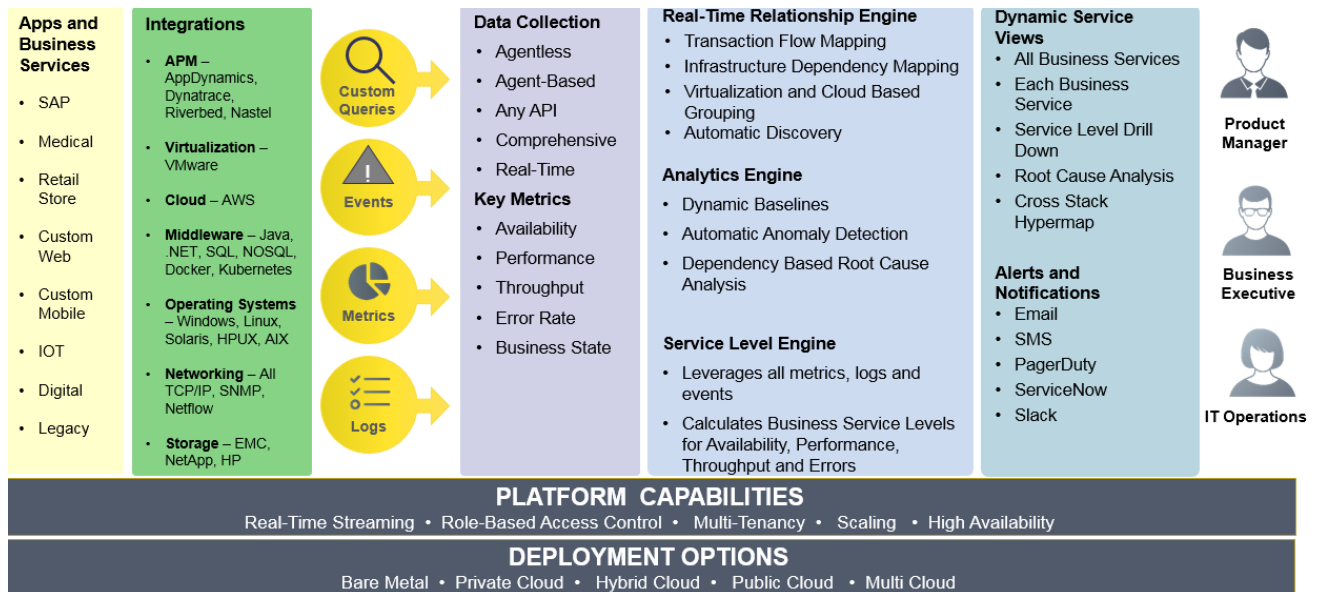
AN INTRODUCTION TO CENTERITY

The Centerity AIOps Platform has a proven history in supporting business service outcomes across complex enterprise and managed service environments. Centerity is built on strong operational analytics and data mining, as well as powerful discovery, visualization, and dependency insights. Highlighted features include the following:

- **Deep and Broad Integrations:** Centerity integrates with the tools and platforms that you rely upon.
- **Dynamic Service Views:** Simple to understand gauges that show the service quality for each critical business service
- **Real-time Analytics:** Advanced management & tactical dashboards maintain SLAs for critical processes.
- **In Context**: Constant alignment between IT data and business objectives.
- **Consistent User Experience**: Detect user experience degradation before your users do.
- **Traffic Analysis:** Analyze bandwidth consumption and data flow; filter by application, packets, protocols, etc.
- **AI-driven Anomaly Detection**: Machine learning for digital services moves the performance discipline beyond thresholds

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The Centerity AIOps Platform

Apps and Business Services	Integrations		Data Collection	Real-Time Relationship Engine	Dynamic Service Views	
• SAP	• **APM** – AppDynamics, Dynatrace, Riverbed, Nastel	Custom Queries	• Agentless	• Transaction Flow Mapping	• All Business Services	Product Manager
• Medical	• **Virtualization** – VMware		• Agent-Based	• Infrastructure Dependency Mapping	• Each Business Service	
• Retail Store	• **Cloud** – AWS		• Any API	• Virtualization and Cloud Based Grouping	• Service Level Drill Down	
• Custom Web	• **Middleware** – Java, .NET, SQL, NOSQL, Docker, Kubernetes	Events	• Comprehensive	• Automatic Discovery	• Root Cause Analysis	
• Custom Mobile			• Real-Time	**Analytics Engine**	• Cross Stack Hypermap	Business Executive
• IOT	• **Operating Systems** – Windows, Linux, Solaris, HPUX, AIX	Metrics	**Key Metrics**	• Dynamic Baselines		
• Digital			• Availability	• Automatic Anomaly Detection	**Alerts and Notifications**	
• Legacy	• **Networking** – All TCP/IP, SNMP, Netflow		• Performance	• Dependency Based Root Cause Analysis	• Email	
			• Throughput		• SMS	
	• **Storage** – EMC, NetApp, HP	Logs	• Error Rate	**Service Level Engine**	• PagerDuty	
			• Business State	• Leverages all metrics, logs and events	• ServiceNow	
				• Calculates Business Service Levels for Availability, Performance, Throughput and Errors	• Slack	IT Operations

PLATFORM CAPABILITIES
Real-Time Streaming • Role-Based Access Control • Multi-Tenancy • Scaling • High Availability
DEPLOYMENT OPTIONS
Bare Metal • Private Cloud • Hybrid Cloud • Public Cloud • Multi Cloud

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Centerity's Dynamic Service Views translate technical metrics and their impact on business services and resultant consequences. Each gauge represents the availability, performance, throughput and error rate of the entire stack of software and hardware supporting each digital business service.
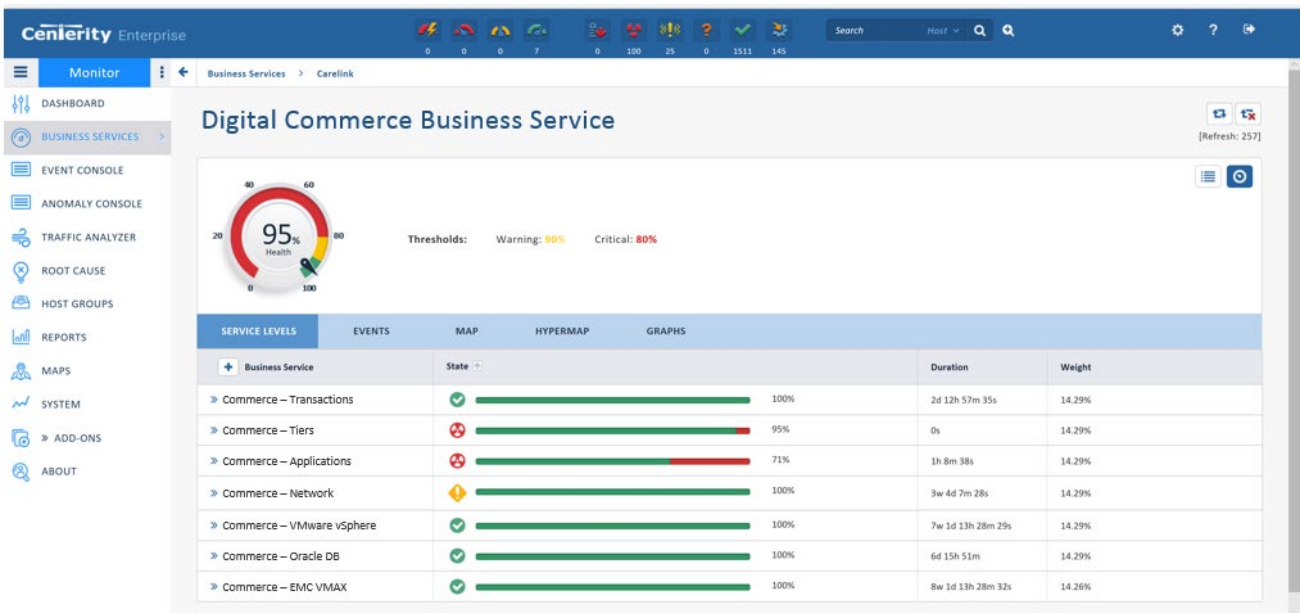
Unified Dynamic Business Service Views

When service levels degrade, Centerity provides a bird's eye view of how the operation of each layer that supports the digital business service is impacting the overall service level.

Drill Down Into Each Layer of a Digital Business Service

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HOW CENTERITY CAN HELP YOU WITH YOUR DIGITAL TRANSFORMATION

Centerity helps you improve the top line business results (revenue, market share, customer satisfaction) of your digitalization transformation projects, and helps you minimize the number of disruptions and the cost and time to repair those disruptions. By providing a holistic view of both infrastructure and business through relevant visualizations enterprises can maintain command before, during, and after the transformation.

Before the transformation:

- Centerity automates the discovery of legacy business communication flows and ascertains application service topologies accurately, saving the time and risk associated with performing this manually.
- Centerity pinpoints performance bottlenecks and establishes standards before the service transformation so that you can compare before and after situations, ensuring that you are fully prepared to go live successfully.
- Centerity distinguishes traffic patterns so that you can plan your services migration steps more cost-effectively, minimizing your expense during the migration.

During the transformation:

- Centerity highlights application behavior anomalies and detects fluctuations in the application performance, compared to history, ensuring exceptional performance from day one, keeping the project on a positive track.

- Centerity ensures a stress-free transition by monitoring new architectures, such as micro apps, containers, and multi-cloud resources as well as their relationship with legacy architectures, such as the mainframe, distributed storage, or on-premise resources.

- Centerity's flexible and intuitive interface will allow your technical resources, to economically adjust legacy interfaces and build fresh ones for the migrated systems. Developing interfaces can often be an unexpected, time consuming, expensive step in the process.

After the transformation:

- Centerity's Dynamic Service Views for the migrated services result in IT infrastructure metrics pictured in a way business partners can understand, allowing everyone to work together efficiently in "the new world".
- Project costs are considerably reduced, as well as the ongoing cost of ownership thanks to Centerity's ability to integrate virtually any infrastructure technology and third-party software tools.
- Proactive analytics reveal valuable insights for all areas of the business, including commercial transactions, purchase tickets, point of sales performance, etc.

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SUMMARY:

Centerity should be considered before, during, and after your digital transformation project to insure you achieve your objectives at a suitable cost and effort. Learn more about Centerity at www.centerity.com.

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