

# Going Beyond AIOps to Accelerate IT Transformation

Whitepaper



*White Paper*

# Digital transformation Requires IT Transformation

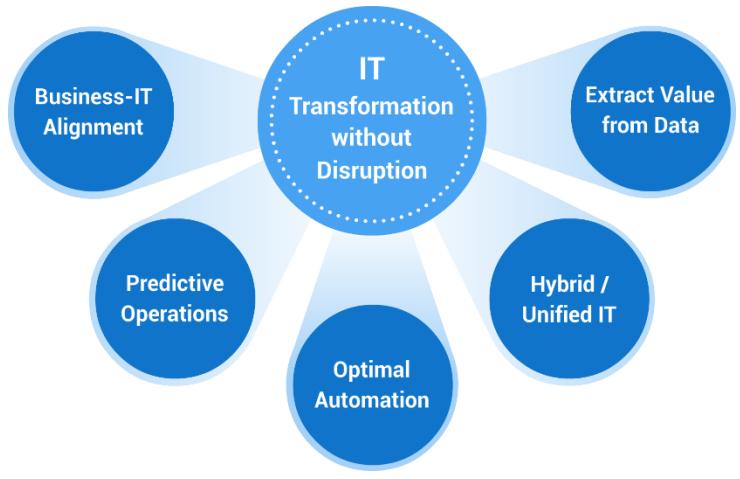
Bold digital entrants and fast changing business environments are forcing enterprises across industries to shorten business strategy life-cycles and look for software driven technology solutions to radically improve the performance, agility and reach of an organization. As software and end user experience become critical competitive advantages, managing availability, performance and speed of delivery of software and experiences are becoming a high priority to digital business. These demands mean that IT transformation should go hand in hand with digital transformation.

IT transformation is an initiative to accelerate the digital delivery of IT services, applications and insights so businesses can out-innovate and outpace the competition. This often requires the IT department to not only modernize the technology but also its operations. The goal is for IT to become more pro-active, flexible, efficient and aligned to business so it can respond quickly to changing business requirements.



## Building Blocks of IT Transformation

As IT transformation is complex and requires firm-wide changes, it is essential for enterprises to take into account the following building blocks for successful implementation:



### Extract Value from Data:

Data really is the lifeblood of the digital age and is a critical corporate asset of digital business. However, when data is used on its own without extracting actionable intelligence/insights, it will not deliver any value. It is the combination of data and technology that can process large volumes of data in near real-time with analytics (especially predictive analytics that provide actionable intelligence) will power the digital world.

## Hybrid & Unified IT:

Hybrid IT is the new IT and it is here to stay. IT organizations must adopt a hybrid IT strategy that includes internal clouds to house critical IT services which then will be complemented with public cloud services wherever feasible and cost efficient. IT operations and management tools should unify the internal and public IT services so they will be seamless to the consumers of IT.

## Predictive Operations

Unplanned outages or service degradation can significantly disrupt business and cause customer dissatisfaction. They drive up costs and bruise reputations. Against this background, organizations are looking for ways to learn patterns by applying advanced analytics and machine learning to historical data. These patterns give early warning signals on impending issues so corrective action can be quickly initiated.

## Business-IT Alignment

Most businesses have digitized their operations to become competitive. This means that business has now have greater dependency on the efficiency of their IT operations. Thus, Business-IT alignment is the organizational capacity to leverage IT for the success of the business. It also means business must have improved and real-time visibility into IT operations performance, and risks so corrective actions can be initiated quickly.

## Optimal Automation

Automation in the digital world should go beyond executing remediation tasks when incidents/alerts are seen. It should aim to reduce the number of incidents that humans need to attend by de-duplicating, event correlation and by auto handling. Even when human intervention is required, the systems should provide rich contextual information so resolution times are significantly reduced.

*"When you modernize your infrastructure, automate IT services and transform operations, you transform your business. According to ESG's analysis, highly transformed organizations reduce costs, increase savings, get more time for product innovation and gain a clear competitive advantage" 1*

## Key challenges to achieve IT transformation

Most transformation projects start with a software upgrade or a technology add-on, rather than taking a solution oriented approach or adopting a platform that would enable the entire workforce, processes, partners and eco-system to adapt to the overall transformation. However, studies have shown very few organization are able to achieve successful IT transformation. The failure is attributed to a disconnect between IT & business objectives, data overload, the inability to handle complex, technically varied and the interconnected nature of IT resources involved.

*"Only about a third of major transformations meet all their project goals on time and within budget. The rest either struggle or fail outright ..." – PWC*

**Complex Integrations:** typical enterprises will have more than 1000 applications with different architectures (modern vs legacy), geographical compliance needs, processes, hosting infrastructures, access controls, requirements etc. Successful IT transformation requires these complex and diverse systems to be integrated for a) Data collection b) perform operation and c) exchange information

**Automation of manual processes:** Digital enterprises work in a connected world that is dynamic in nature requiring applications to go through constant updates, upgrades and migrations. The pace of change in the digital world is also rapid which means that traditional manual approaches to large-scale change management and remediation just don't work anymore. Agile and automated cross-functional collaboration is required to manage things.

**Distributed Data:** As data resides across different systems, organizations need a consistent way to federate all that data for building reporting and analytical capabilities. The sheer number of sources, diversity, and enormous volume and velocity can cause serious issues if enterprises don't have a data fabric that is flexible and yet scalable to meet these diverse and complex needs.

**Organization wide alignment (BizDevOps):** Organizations largely failing to embed strategic business objectives throughout the organization where they could link business outcomes to the capabilities of IT in simple and consistent manner.

**Complex dependencies of IT Assets:** IT assets (infra, applications etc.,) are spread across locations and departments each with their own life cycle management needs. More importantly, these assets are often related to each other in sometimes complex ways. Understanding these dependencies, usage and their life cycle management is almost impossible without an automatic way of learning them. Lack of this intricate knowledge throws surprises and delays transformation projects.

**Volume of alerts:** IT operations teams are bombarded with alerts and often struggle to prioritize them. Reduced alert noise will help an organization focus on the most relevant problems and reduce mean time to resolve issues (MTTR). However this is easier said than done as most IT systems lack the capabilities to eliminate duplicate alerts and aggregate them to a single incident with high confidence due to tool silos.

*Gartner predicts that by 2020 more than 50% of enterprises will replace core IT operations management tools entirely*

## AIOps to the rescue?

AIOps stands for **Artificial Intelligence for IT Operations**. It refers to the ability to automate and enhance IT operations by using analytics and machine learning. It calls for the ability to analyse data collected from various IT operations tools and devices, in order to automatically spot and react to issues in near real-time.

## Key Elements of AIOps

AIOps technologies comprises multiple capabilities that address data collection, storage, analytical engines, visualization and automation. They should also enable integration with other applications via application programming interfaces (APIs) making it an open system that can work seamlessly with any vendor tools. Another key element is the use of smart algorithms – which is a key component of machine learning – to automatically resolve known, repetitive, and identifiable issues/problems while also providing recommendations to deliver better user experience.

1. Highly Scalable Data Ingestion: Ability to ingest data from different IT data sources, such as events, metrics, logs, job data, tickets, monitoring, etc.
2. Data Manipulation and Analytics that enable the system/user to manipulate ingested data or perform analytics to produce insights or triggers to act upon.
3. Smart Algorithms that leverage IT domain expertise to automate the process of analysing and correlating event data to reduce alerts and improve resolution times. It can also support running what-if analysis, baselining and forecasting models.
4. Machine learning that can learn from historical data and predict things before they happen. This can significantly reduce unplanned down times.
5. Visualization, which provides visibility to IT Ops in an easily consumable way, to facilitate understanding and action.
6. Automation, to respond to incidents automatically to provide remediation.
7. Integration to allow dynamic exchange of data between multiple systems and perform life cycle operations. This should cover bi-directional interaction with ITOM, ITSM and automation tools.
8. Collaboration to allow teams to work with each other more effectively using enhanced contextual knowledge.

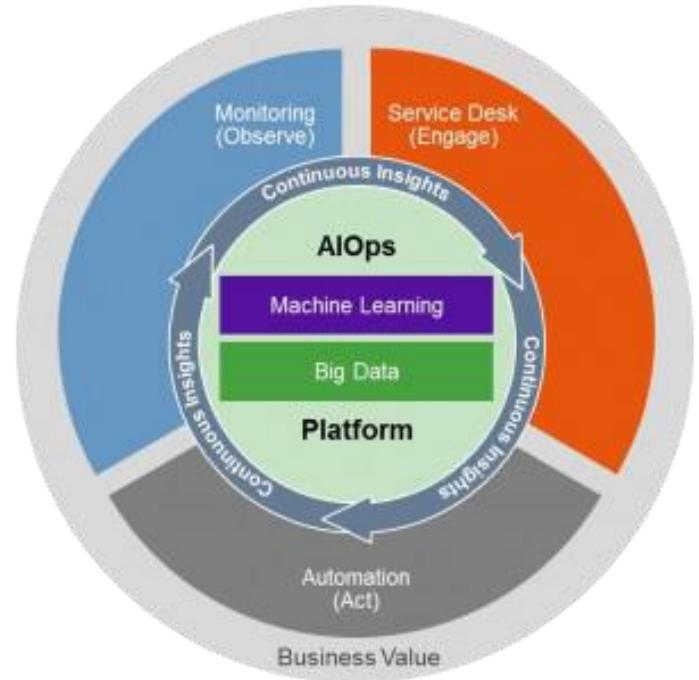


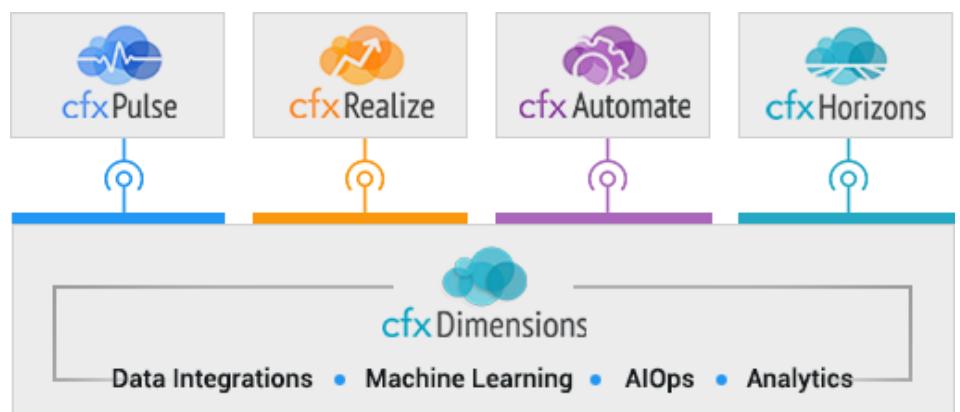
Image Source : Gartner

# Introducing cfxDimensions

## Outcomes Driven AIOps Platform

cfxDimensions helps IT operations run their IT at cloud speed through automation, unified monitoring, dynamic asset lifecycle management, applying advanced analytics for incident/alert reduction, faster detection – ideally before an incident happens or causes wide spread impact. It enables effective collaboration between teams with rich context for faster diagnosis/resolution. It also helps business teams and leadership gain visibility on key metric performance in real-time and understand business performance dependencies on underlying technology. These capabilities can improve revenue and customer satisfaction through efficient customer adoption and success management of its products and services.

It delivers the above mentioned capabilities as solution packs that work alone or in concert making it easy for customers to get started with any one module and extend it as per their needs.



cfxDimensions can be fully customizable to meet the diverse needs of enterprises and MSPs - thanks to its cloud-native architecture, extensible framework and plug and play ready to use solution packs. It offers flexible deployment options to install on-premises or on public cloud. Partners can also deploy it in their datacenter to provide a hosted solution and deliver managed services for their customers.

Following are the key capabilities that organizations gain by successfully implementing cfxDimensions:

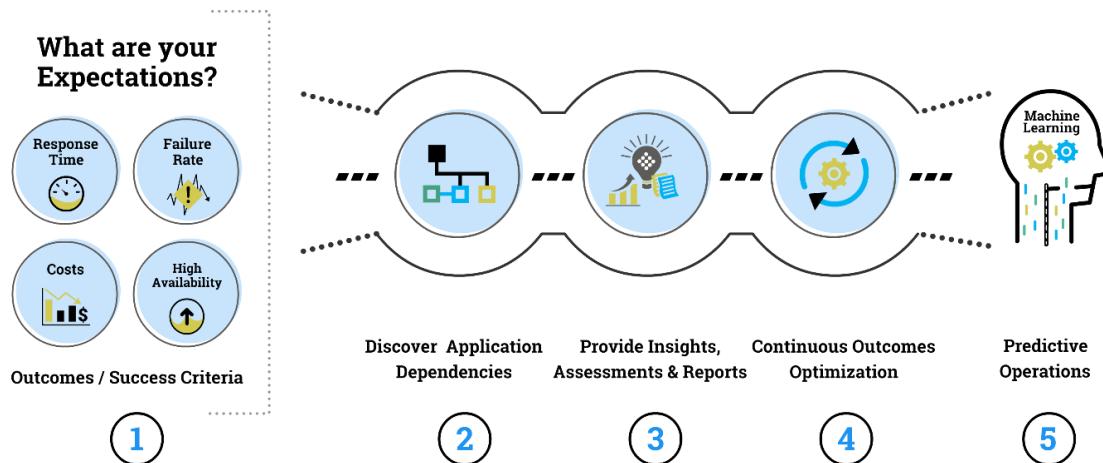
- High scale data ingestion & integration
- Data driven decision making
- Business IT alignment
- Unified IT intelligence/analytics layer
- Predictive operations
- Agile automation and integration
- Asset optimization
- Dynamic customer success management
- Detailed Application/Services Dependency Mapping

*"The CloudFabrix cfxDimensions Platform goes beyond machine learning and AIOps to enable highly automated, outcome-driven operational and business efficiencies."*

# cfxDimensions For IT Transformation

The cfxDimensions product is purpose built to deliver successful IT transformation with its comprehensive set of data collection/ingestion, integration, analytics and governance capabilities. Built using modern architecture with extensible framework it can be customized as per the needs and capabilities of the enterprises ensuring success even in complex environments. Its market place approach will help enterprises reduce costs and cut implementation times by leveraging the ecosystem it enables.

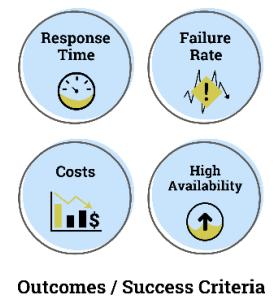
A major advantage of an outcomes driven AIOps product like cfxDimensions is that it goes beyond providing improved visibility to significantly reduces IT operations costs through unification, simplification and automation. More importantly it brings alignment between IT and business so all process, tools and decisions are optimized to deliver desired business performance objectives.



Enterprises can achieve IT transformation in a phased and controlled manner

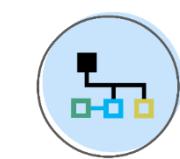
1. Specify transformation goals as cfxDimensions outcomes. These are sets of objectives that enterprises want to achieve from its transformation initiatives.

- Infra Transformation objectives: Cloud migration, DC refresh, Unified Intelligence etc.
- Application transformation objectives: Application modernization, user experience management etc.
- Operation transformation objectives – Unified intelligence, automation, digital war room etc.,
- Business transformation objectives : Real-time visibility into business KPIs, cost reduction, customer success management, Business-IT alignment etc.,



2. Any transformation initiatives should starts with visibility – knowing what's out there. cfxDimensions can continuously discover all your apps, infrastructure and clouds using a unique agentless approach to build a comprehensive and active model of application dependency maps covering the complete topology of the technology stack. cfxDimensions uses data from multiple sources to provide this information.

- Infrastructure topology – CDP and/or LLDP, FC Zoning, CMDB etc.
- Hosts – LDAP/AD, SSH/WMI, CMDB etc.
- Virtual infrastructure – vCenter API, AWS/Azure/GCP APIs etc.
- Component interactions and details – WMI/SSH (specific probes), Netstat, Netflow, SPAN, IPM/NPM/APM tools etc.



Discover Application Dependencies

**3.** Next comes the data collection, processing & analytics phase in which cfxDimensions collects large volumes of data from multiple sources, leveraging the discovery data, then processes and analyses them in the context of the intended outcomes. This will help decision makers understand where they stand relative to achieving the outcomes, as well as the gaps and risks involved. These contextual analytics and insights can be used as a guide by the stakeholders in achieving the transformation goals and to make strategic decisions.

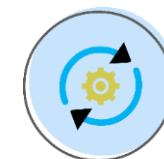
- Asset usage and adoption analysis and insights
- Transformation assessments – readiness, gaps and risks
- Life cycle management issues/challenge.



Provide Insights,  
Assessments & Reports

**4.** Armed with the data from the data collection and analytics phases, decision makers can optimize their technology and operations to achieve the transformation goals. Combination of algorithms and tools will be used to implement the optimization plans.

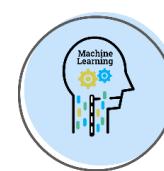
- Reduce operation costs – alert reduction, event correlation, asset optimization etc.
- Improve operational efficiency – automation, baselining, faster resolution using root cause analytics etc.
- Improve visibility – real-time visibility of key performance metrics, drill down analytics etc.



Continuous  
Optimization

**5.** cfxDimensions built-in machine learning engine will make the systems self-governed and predictive over time. Desired operations state will be learned and deviations quickly identified, leading to brisk corrective actions. cfxDimensions establishes a baseline after a learning period and is then able to predict negative outcomes before they happen automatically recommending preventive measures.

- Deviations from baseline
- Learn leading indicators
- Pattern matching
- Cross layer correlation



Predictive  
Operations

*"Rather than just looking proactively at different data, which was itself of value, with cfxDimensions we were able to take that up a level and relate what was happening to business outcomes and business objectives.. " – Tier 1 MSP Provider*

## Use Cases Enabled

Use cases that are critical for successful IT transformation, enabled through cfxDimensions.

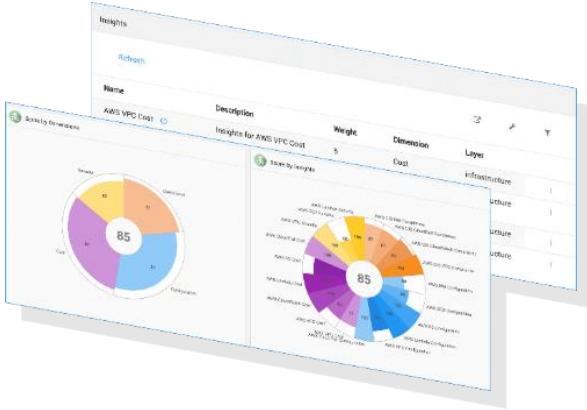
 CXO Intelligence Dashboard	 Asset (HW/SW) usage and cost optimization	 Digital/Customer Experience Management
 Application Operations Modernization	 Modern Cloud-Native Apps Support	 Digital War Room
 Infrastructure/ IT Ops Modernization	 Cloud Migration / Transformation	 Hybrid IT/App Monitoring

Benefits enabled through cfxDimensions.

 Unifying IT	 Improved IT Operational Efficiencies	 Data-Driven Decisions	 Speed & Agility in Service Delivery
 Application-Infrastructure Asset Optimization	 Hybrid Cloud	 Modernization of IT	 Improved Business-to-IT Alignment

# About CloudFabrix

CloudFabrix enables IT to be responsive and business aligned by making it more agile, efficient, and analytics-driven. CloudFabrix powers the enterprise move to develop, modernize, and govern IT processes, applications and operations in the context of business outcomes and automation. The CloudFabrix AIOps Platform simplifies IT operations and governance unifying both traditional and modern applications across multi-cloud environments. CloudFabrix accelerates the enterprise's cloud native journey by providing many built-in foundational services and turnkey operational capabilities. CloudFabrix is headquartered in Pleasanton, CA



Name	Score	Dimension
AWS VPC Cost	75	Cost
AWS VPC Security	100	Security
AWS EC2 Cost	75	Cost
AWS CIS IAM Compliance	87	Compliance
AWS EC2 Security	50	Security
AWS CloudWatch Cost	100	Cost

Name	Description	Weight
AWS VPC Cost	Insights for AWS VPC Cost	5
AWS CIS IAM Compliance	Insights for AWS CIS IAM Compliance	5
AWS EC2 Cost	Insights for AWS EC2 Cost	5
AWS CloudWatch Cost	Insights for AWS CloudWatch Cost	5

