



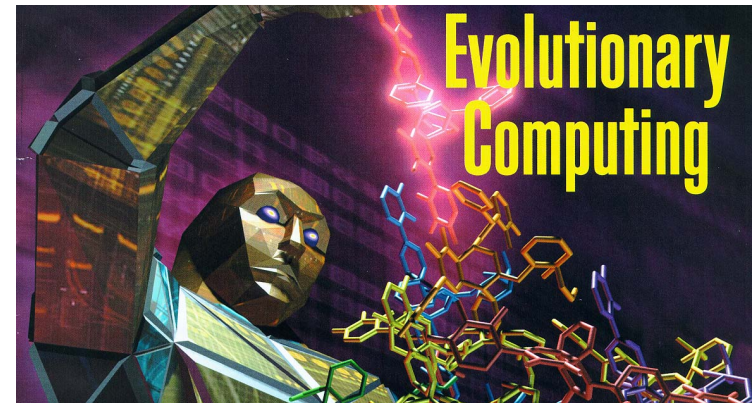
**A** **N** **A** **L** **Y** **T** **I** **C**   **P** **R** **E** **D** **I** **C** **T** **I** **O** **N** **S**   **F** **O** **R**   **I** **T**   **O** **P** **E** **R** **A** **T** **I** **O** **N** **S**

# The APITO Group

- Joint Venture with Natural Selection Inc.
  - IT Operations and Computational Intelligence Experts
- Focused solely on delivering **Adaptive Predictive Analytics solutions for IT Operations**
  - Improve Operational Efficiency (lower cost)
  - Increase Availability (uptime)
  - Reduce Outages (downtime)
  - Greater Stability & Consistency (meet SLAs)
  - Better Utilization of IT Resources (human and financial)



- Founded in 1993; San Diego, CA
- Pioneers in Computational Intelligence and Evolutionary Computation
- Experts in statistical techniques with decades of experience addressing complex problems in the government and commercial markets
- Proven solutions in government and commercial markets



IEEE CIS Inaugural Outstanding  
Organization Award (2011)

[www.natural-selection.com](http://www.natural-selection.com)

# What the Industry Experts Are Saying...

- “Performance- and event monitoring-related datasets **are growing rapidly in size and complexity**, making meaningful **patterns almost impossible to discover by unaided human observation**” - Gartner
- “The **newer forms of predictive IT analytics** are especially **critical for IT departments** struggling with tight budgets and knee-deep in service requests, IT projects, and infrastructure upgrades.” - IDC
- “**IT analytics** hold the promise of helping IT organizations **better manage the technology that runs their business** – turning the concept of Big Data inward.” - Forrester

# Incidents/Outages Are Expensive

- \$46M in employee cost/year lost in downtime for Fortune 500 companies (Dunn & Bradstreet)
- Downtime costs \$42,000/hour (Gartner)
- Data Center downtime costs \$5,600/minute (Ponemon Institute)
- \$26.5B in lost revenue/year (Information Week)
- On average businesses lose between \$84,000 and \$108,000 (USD) for every hour of IT system downtime

# Predictive Analytics ROI

Optimize IT Operations efficiency:

- **Prevention:** Eliminate issues before they impact the business and become incidents
- **Remediation:** Assisted root-cause analysis to lower mean-time-to-repair (MTTR)
- **Optimization:** Maximize operational efficiency (financial, performance and human resource allocation)
- **Planning:** Optimize IT infrastructure utilization, CAP-X spend and ensure governance & compliance

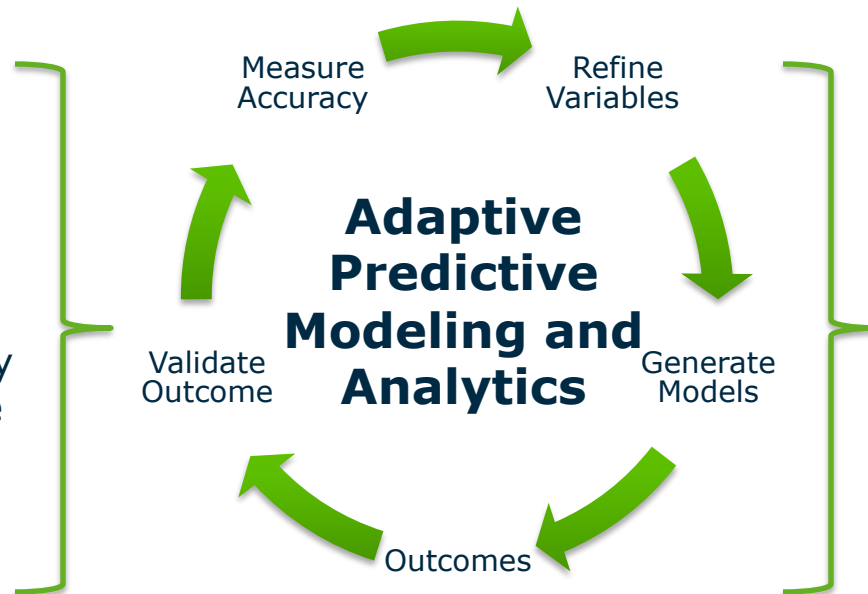
# High Value Use Cases

- Root Cause Analysis/Resolution
  - Predict most likely incident root-cause and resolution
- Incident Detection/Prevention
  - Identify issues before it impacts the business
- Security Threat/Risk Detection
  - Predictive models adapt to improve detection/lower risk
- Performance Detection/Prevention
  - Detect anomalies and alert operations to improve operations
- Monitor Configuration/Change Management
  - Predict impact of change (performance, reliability, etc.)

# Applied to Typical Big IT Data

## IT Data Sources

- ❖ SPLUNK
- ❖ Configuration
- ❖ Inventory
- ❖ Performance Metrics
- ❖ Transaction Volumes
- ❖ Incident Metrics
- ❖ Knowledge Repository
- ❖ Network Performance
- ❖ SLA Performance
- ❖ Environmental Data
- ❖ .. More



## Use Cases

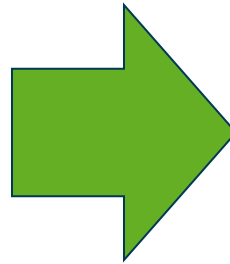
- ❖ Shorter MTTR
- ❖ Impact-of-Change
- ❖ Proactive Failure Detection
- ❖ Improved Capacity Planning
- ❖ Network Planning/Expansion
- ❖ Improved Resource Scheduling
- ❖ .. more



# Title and Insurance Company (example)

## Primary Data Sources

- Business Service Map
- CMDB
- Inventory Scans
- MS SCOM alerts
- SCM (internal app)
- Change (infrastructure)
- Incident
- Network and APM



## 4 Phase Project

1. **Data analysis**
  - a. Identify patterns
  - b. Correlation
2. **Anomaly Detection**
  - a. Monitoring
  - b. Alerting
3. **Assisted root-cause analysis**
4. **Pre-Incident alerting**

## Expected Results

- Identify and correlate factors affecting application uptime
- Monitor and alert anomalous system/app behavior
- Rank-order root-cause by likelihood for incident class
- Recommend most useful course of action to remediate
- Predict the probability of a P1 incident; enabling proactive steps to avoid the incident

# The Value of Adaptive Predictive Analytics

- Machine generated data is too complex (velocity and volume) for humans to comprehend and act-upon, often overwhelming operations personnel – Big IT Data
- Deliver actionable, forward looking intelligence to operations personnel
  - Enables a Preventive vs. Reactive operational approach
  - Reduces IT's operational risk to the business
  - Lowers the # and duration of business impacting incidents
  - Improves IT governance and compliance
  - and more ...



**A N A L Y T I C P R E D I C T I O N S F O R I T O P E R A T I O N S**

**Predictive Analytics Solutions that Provide the  
Foundation to Reinvent IT Service Delivery and  
Change the Economics of IT Operations**