InterMax

InterMax for Mobile

Track Complex Transaction Flows in Real Time with a Single Platform

Application Environment at a Glance

In today's increasingly complex IT business environment, standardized and integrated data is essential to rapidly reflect customer requirements and minimize service incident response times by enabling efficient communication between operators across each tier. Monitor diverse environments: WAS, WEB, TP, .NET, and more in a unified view to quickly measure performance and identify root causes across every tier.

InterMax

Why InterMax Stands Out

E2E Performance Management Across the Entire Application Service Path

InterMax efficiently manages integrated performance across application servers, database servers, and all tiers. An End-to-End performance management solution that traces the entire path: from user requests through internal WEB-WAS-DB-external system integrations to TP/C daemons.

Global Standard

Exem continues to grow alongside 1,000+ customers across 29 countries worldwide from Database and Full Stack Monitoring to Cloud, AI, and Big Data.

Countries
29+

Customers
1,000+

Product Highlights

Manage Entire Transaction Flows in a Single View

Visualize architecture through topology view for system transaction status. Collect real time performance data and receive alerts on incidents for rapid response.

Trace and Analyze Transactions in Detail

Accurately identify and resolve performance bottlenecks with individual transaction End-to-End flowcharts, monitoring agents, and precision analysis of delay prone tiers.

Track Issue Timing, Path, and Tier in One Place

Quickly identify and address performance trends at the moment of service delays, transaction paths, and frequently problematic tiers.

Manage Mobile App Quality in Real Time

Monitor crash trends and rates by mobile app, OS specific status, and developer focused analysis reports to manage both app performance and customer satisfaction.

Unified Monitoring

Access a centralized dashboard to view entire transaction flows at a glance. Visualize cross-tier connectivity and business level transactions in a single screen to intuitively detect anomalies and performance degradation.

1 Industry Optimized Monitoring Environments

InterMax serves customers across public sector, finance, retail, manufacturing, and more. We partner with our customers to create greater value through our products and services.

Retail
key performance metrics by business unit

Manufacturing
Business grouping by production process

Financial Institution
External institution monitoring

Public Institution
Regional performance metric

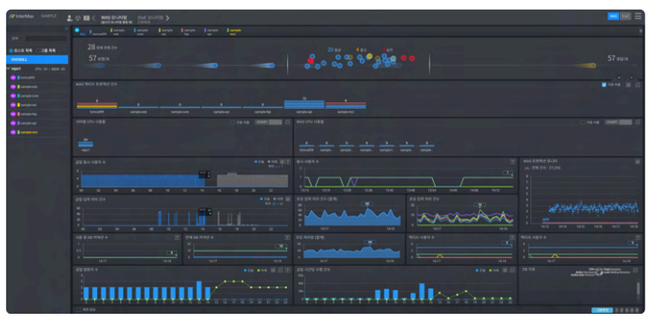
Service Flow Based Real Time Monitoring

Track entire service paths in real time from web servers (WAS) to databases (DB) and external systems. Visualize connection structures through topology based views, collect key metrics (TPS, response time, error rate) in real time, and quickly detect and respond via alerts when anomalies occur.

1 Real time Monitoring

Collect diverse system metrics connected to WAS in real time for early incident detection

- Collect WAS core metrics in real time: TPS, response time, GC time, error rate
- Monitor performance status by call tier: Application → DB → External API
- Respond rapidly to anomalies through threshold settings and automated alerts



2 Topology View

Visualize call relationships between systems to view entire integration structure at a glance and quickly identify incidents

- Provide real time connection status between WAS, DB, and external integrated systems
- Intuitively verify call status and alert state for each system
- Apply to diverse architectures: single/multi WAS, hybrid, and more

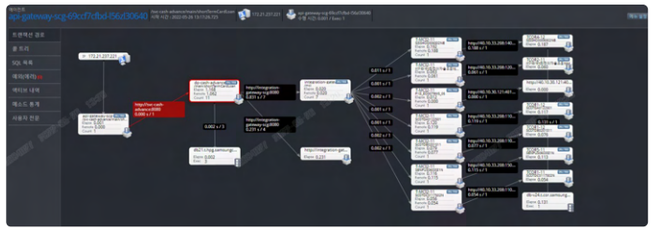
End-to-End Transaction Flow Tracking

Visualize how user requests are processed within systems through transaction paths. Monitor Gap periods for asynchronous transactions as well as synchronous ones. Intuitively analyze response times, errors, and delay tiers for each segment. Quickly identify performance degradation causes through user based response time monitoring.

1 Real Time Monitoring

Intuitively identify service bottleneck tiers through real time tracking

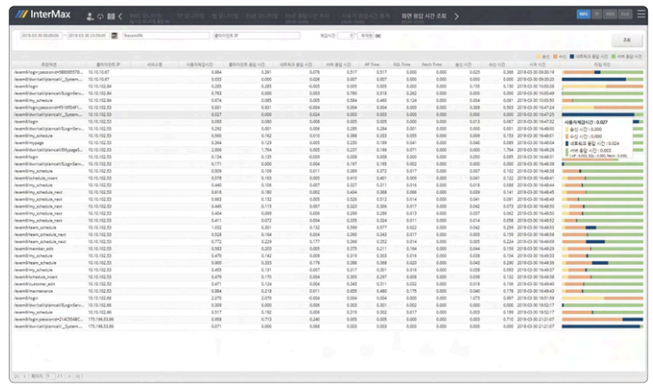
- Provide End-to-End flow visualization for individual transactions
- Analyze response time, errors, and delay status
- Detailed root cause analysis through Call Trace
- Identify position within entire system structure



2 End-to-End Monitoring

Unified tracking across all transaction tiers via GUID for precise analysis of incident tiers and user impact

- Provide transaction message collection and GUID based transaction query
- Provide unified monitoring agents for entire systems: WEB/WAS/DB/TP/C
- Support detailed analysis traceable down to session and click level
- Verify actual user response times through RUM (Real User Monitoring) integration



Business Centric Monitoring

Go beyond technical metrics to monitor key business outcomes order volume, revenue, transaction count in real time. Define each service flow tier at the business level to analyze performance by stage and comprehensively evaluate service quality

1 Business Monitoring

Measure and manage real business outcomes beyond technical metrics through business perspective monitoring

- Provide monitoring centered on key metrics: order volume, revenue, transaction count
- Enable detailed performance tracking by tier through business level definitions
- Measure and analyze service quality from a business process perspective, not individual transactions

Performance Trend Based Root Cause Analysis

Correlate and analyze key metrics from WAS, DB, OS at incident time to identify root causes. Provide real time information including Active Sessions and Process Lists, and prevent recurring issues through time based performance pattern analysis.

1 Performance Trend

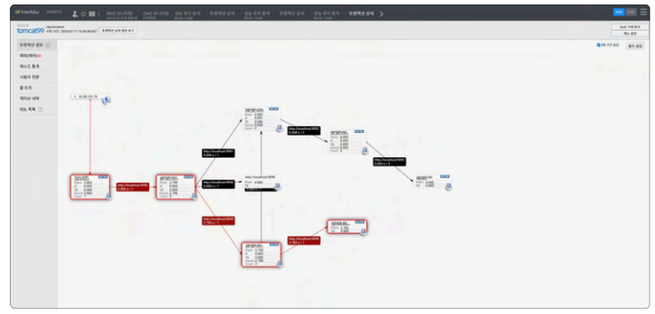
Precisely analyze service delay causes based on time series performance metric trends

- Analyze time based trends for key system performance metrics: WAS, DB, OS
- Compare metrics at performance degradation points: response time, throughput, Active Session
- Identify and reproduce issue patterns based on historical data
- Support concurrent pattern analysis by time for transactions, SQL, and system events

2 Trace Analysis

Derive bottleneck tiers through Call Trace

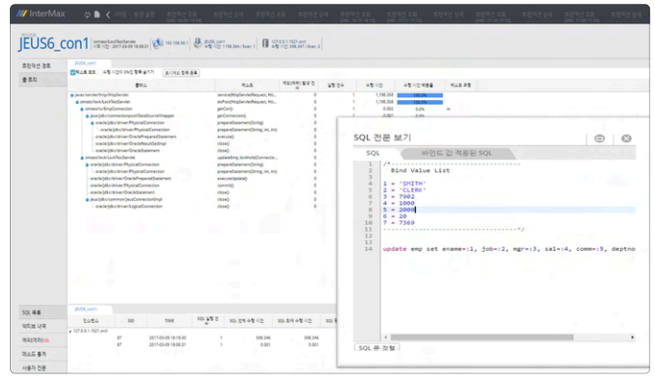
- Structure Method call flows and execution times
- Support delayed SQL identification and Bind Value based analysis
- Enable detailed transaction tracking based on business processing flows
- Precision structure analysis of individual transactions for bottleneck detection



3 Transaction Details

Provide detailed history analysis centered on execution results and completed transactions

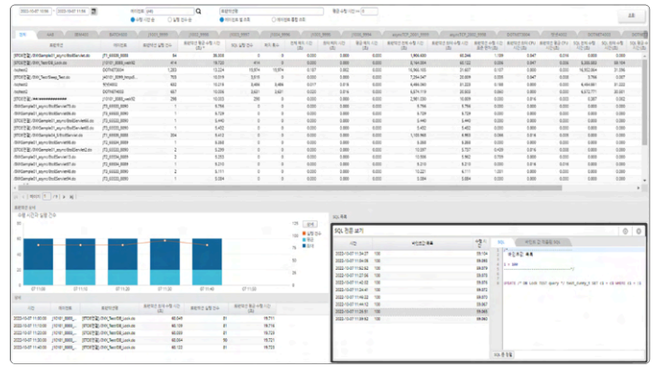
- Provide detailed data: transaction execution time, call flow, error location
- Drilldown analysis from Method level Call Trace to SQL execution details
- Support Bind Value analysis for delayed SQL
- Use for precision analysis and reproduction of bottleneck tiers during service delays



4 Top Transaction

Prioritize identification of key transactions

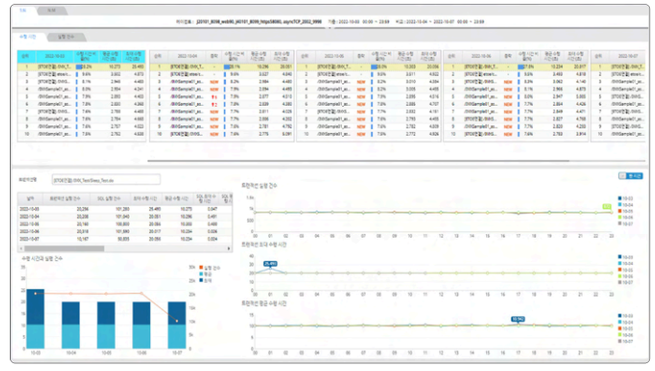
- Auto extract top transactions and SQL causing performance degradation
- Derive high impact transactions based on response time and execution count
- Take preemptive action through key business transaction analysis
- Establish performance improvement strategies for priority transactions



5 Pre/Post Performance Comparison

Objectively compare performance changes before/after tuning or during event periods

- Identify performance by comparing transaction and SQL load patterns during specific events
- Analyze changes in Latency, TPS based on pre/post tuning data
- Quantitatively verify performance improvement effectiveness for measurement and reporting



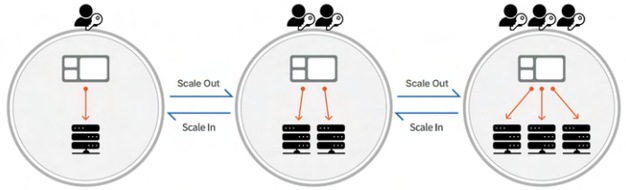
Flexible Operations Environment Response

Respond flexibly and manage performance across all tiers through cloud based Auto Scaling support, DB integration analysis, and automated reports. Auto detect new instances for monitoring, analyze down to DB level via MaxGauge(DB) integration, and proactively identify performance issues.

1 Cloud Scale In / Out

Auto detect changing instances during Auto Scaling in cloud environments and reflect in real time monitoring targets

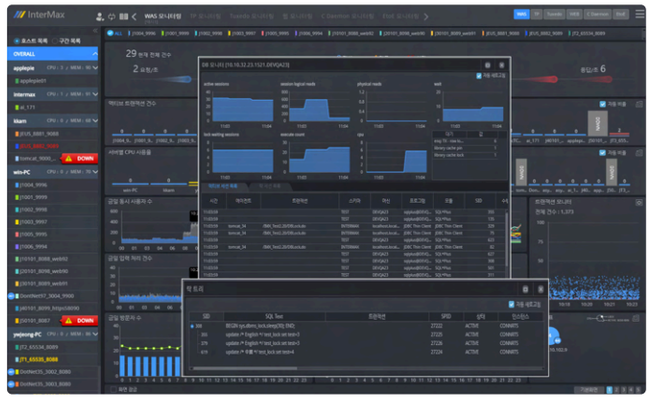
- Auto detect new instances or containers to monitoring targets
- Support automatic Agent registration/deletion for key service instances: WAS, DB
- Support integration with diverse cloud platforms: Kubernetes, OpenShift, AWS



2 MaxGauge(DB) Integration

Integrate with MaxGauge to analyze performance data from applications to databases at a glance

- Query MaxGauge DB detailed metrics in real time from InterMax screens
- Immediately analyze linked DB session/SQL information for transaction delay tiers



3 Automated Performance Reports

Auto generate reports analyzing system performance and operational status, with user customizable metrics and integrated reporting capabilities

- Support automated report generation and email delivery for daily/weekly/monthly key performance metrics
- Enable user selection of targets and metrics with diverse conditions: by transaction, time period, system


Report Types


Report Metrics


Report Examples

Architecture

1 Data Collection

- Deploy lightweight Agents on N-Tier environments
- Support diverse application environments
- Auto Agent registration/deletion for cloud Scale In/ Out

2 Data Storage & Processing

Data Collection & Storage

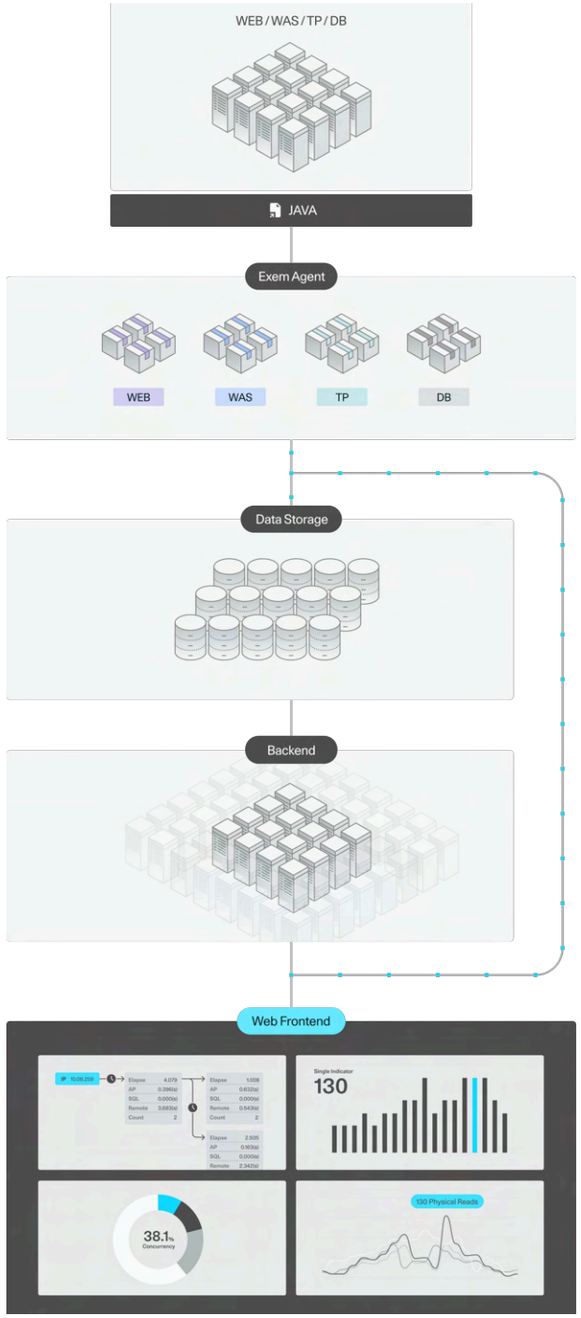
- Store and manage transaction performance data in time series format
- Collect End-to-End transaction traces and detailed Call Traces
- Real time data streaming based on Web Socket

Data Analysis & Integration

- Unified session analysis between WAS-DB through MaxGauge integration
- Provide threshold based analysis and tuning points by transaction/SQL
- Automated report generation and email delivery based on scheduling

3 Presentation

- Auto topology configuration of entire system architecture
- Provide unified dashboard centered on key performance metrics by business unit
- Link real time alert status and incident root cause analysis reports



Platform Specs

WAS

Operating System (OS)

AIX 5.x, 6.x, 7.x+ (32/64bit)
HP-UX 11.x+ (including IA 64) (32/64bit)
Oracle Solaris 2.8, 2.9, 10, 11+ (including x86) (32/64bit)
Linux 32/64bit (GNU libc 2.5+), Kernel 2.6.x+
Windows Server 2003, 2008, 2012+ (including x86/x64)

Monitored WAS

WebLogic 9.x, 10.x, 11.x, 12.x+
WebSphere 6.1, 7.x, 8.x+
JEUS 5.x, 6.x, 7.x+
Tomcat 5.x, 6.x, 7.x, 8.x+
Oracle Application Server (OC4J)
Resin 3.x+
Jboss 4.2.x, 5.x, 6.x, 7.x+
GlassFish 2.x+
Others (supported upon request)
- Applicable to environments running on Java 5+ JVM

Supported DB (JDBC)

Oracle, DB2, SQL Server, MySQL, PostgreSQL, Sybase, Informix, and others

WEB

Operating System (OS)

AIX 5.x, 6.x, 7.x+ (32/64bit)
HP-UX 11.x+ (including IA 64) (32/64bit)
Oracle Solaris 10, 11+ (including x86) (32/64bit)
Linux 32/64bit (Kernel 2.6.x+)
Windows Server 2008, 2012+ (including x86/x64)

Monitored WEB

Apache 2.x+
WebtoB 4.x+
IIS 6.x+

.NET Framework

Operating System (OS)

Windows Server 2003+ (including x86/x64)

Monitored .NET

ASP.NET running on IIS 6.x+
Windows services based on .NET Framework 2.x+
Executables based on .NET Framework 2.x+

Framework

.NET Framework 2.x+

DB

Oracle, SQL Server, Sybase

.NET

Operating System (OS)

Windows Server 2012 R2+

Monitored .NET

ASP.NET Core running on IIS 8.5+

Framework Environment

.NET 6.0+

Supported DB

SQL Server

TP

Operating System (OS)

AIX 5.x, 6.x, 7.x+ (32/64bit)
HP-UX 11.x+ (including IA 64) (32/64bit)
Linux 32/64bit (Kernel 2.6.x+)

Monitored TP

TMAX 5.x+
TUXEDO 10.x+
TIBCO 5.x+

Supported DB

Oracle

CDaemon

Operating System (OS)

AIX 5.x, 6.x, 7.x+ (32/64bit)
Linux 32/64bit (Kernel 2.6.x+)

Monitored

CDaemon Application modules

InterMax - Collection Server

Collection Server

OS: Linux Kernel 2.x / 2.x x86 64bit (CentOS 7+, Rocky Linux 8+ supported)
DB: ClickHouse 25.3.2.39
CPU: 16Core (recommended) / 8Core (minimum)
RAM: 32GB (recommended) / 16GB (minimum)
DISK: Varies by monitored Instance count (minimum 200GB+, SSD required), calculated per customer
JAVA: 11

Browser (PC)

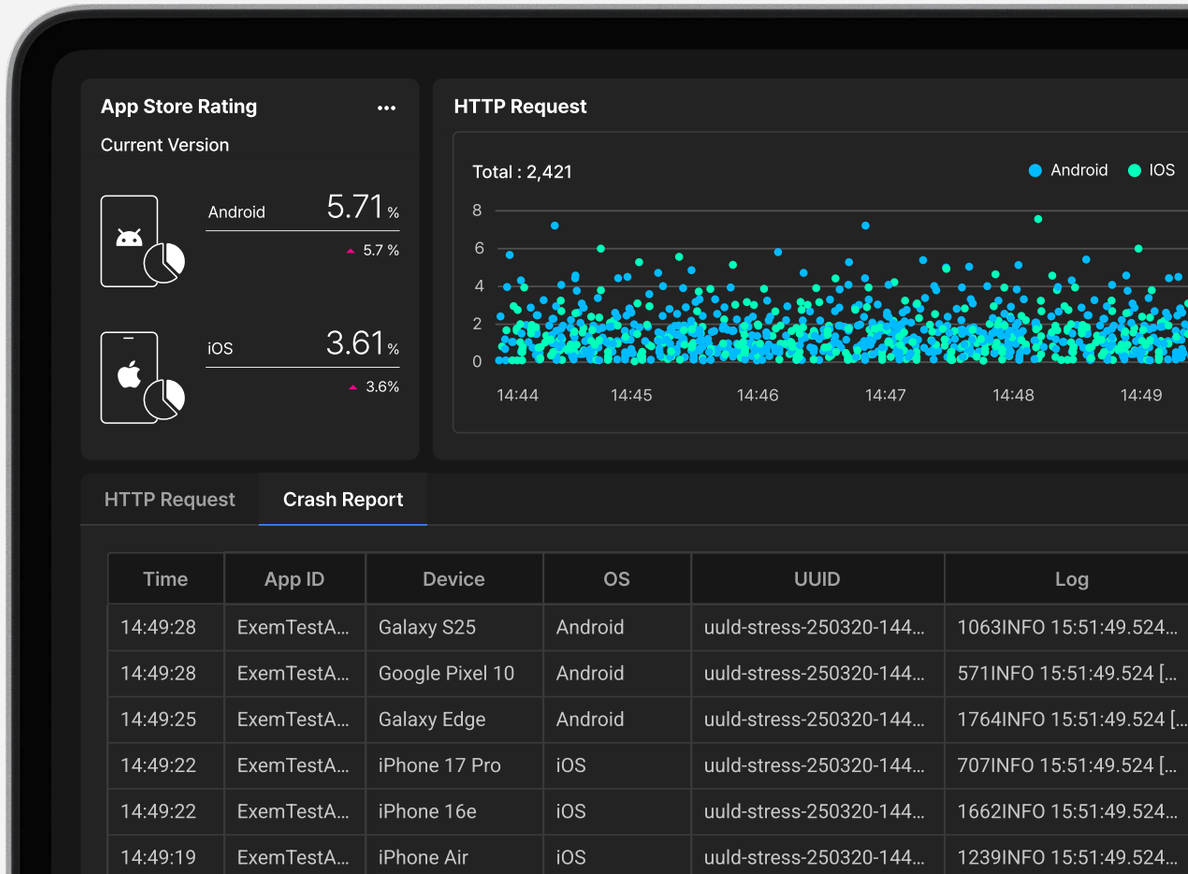
Optimized for Chrome 73+, Edge 79+
Resolution: 1920 X 1080 (FHD)

InterMax for Mobile

Why InterMax for Mobile Stands Out

E2E Performance Management Across the Entire Application Service Path

As businesses increasingly adopt contactless services across various sectors, smartphone mobile apps are at the center. App service incidents cause customer inconvenience, leading directly to customer churn. Therefore, regardless of different OS versions, app versions, carriers, or number of apps, you must monitor app services stably in a unified view, quickly identify delayed tiers and issues, and resolve them.



Unified Mobile App Monitoring

View real time status at a glance from single apps to multiple apps and hybrid apps. Separate Android/iOS metrics to check response times and error rates by app in real time, compare multiple apps in one screen to quickly identify anomalies. Drill down to detailed screens as needed to immediately trace issue causes.

1 Single App Real time Monitoring

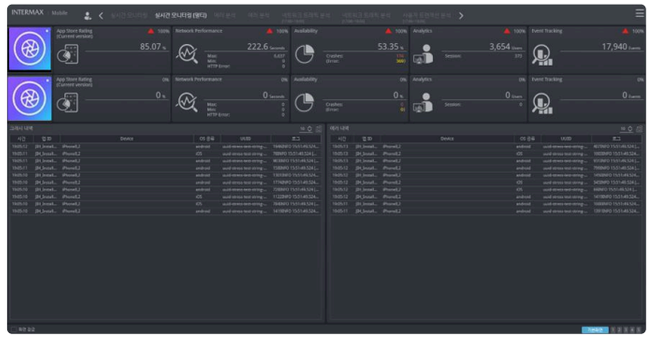
Assess single app status by Android/iOS

- Android/iOS metrics for real time monitoring: response time, error rate, active users
- Navigate directly to root cause screen when thresholds exceeded via alerts
- Track status changes from release perspective

2 Multi & Hybrid App Real time Monitoring

Monitor diverse hybrid apps simultaneously

- Compare key metrics across multiple apps
- Drill down to Single app detail screen with one click
- Real time reflection of script integration metrics for hybrid (Native↔WebView) apps



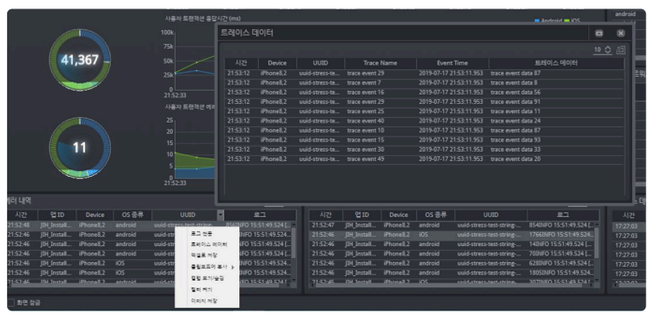
Error Diagnosis and Precision Analysis

View app crashes, webview loading delays, user transaction failures. Segment and track causes by device, OS, version, and network. Narrow down problem areas precisely through breadcrumb, loading bottleneck, and transaction flow analysis.

1 App Crash and Error Analysis

Narrow down crash causes precisely by device, OS, and app version

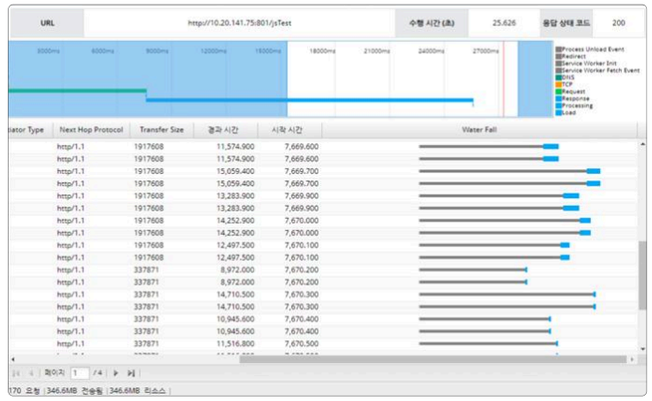
- Analyze crash rate trends by device/OS/version
- Identify impact scope through real time correlation with key performance metrics
- Developer view: rapid reproduction with breadcrumb + stack/logs (iOS symbolication)



2 Browser Loading Time Monitoring

Webview performance analysis that pinpoints bottlenecks by URL and resource

- Identify bottleneck segments by page loading stage (script/image, etc.)
- Focus analysis on specific resources using Exclude Filtering
- Immediate integration with related screens: RTM network list, user behavior analysis



3 User Transaction Analysis (Flow & Success Rate)

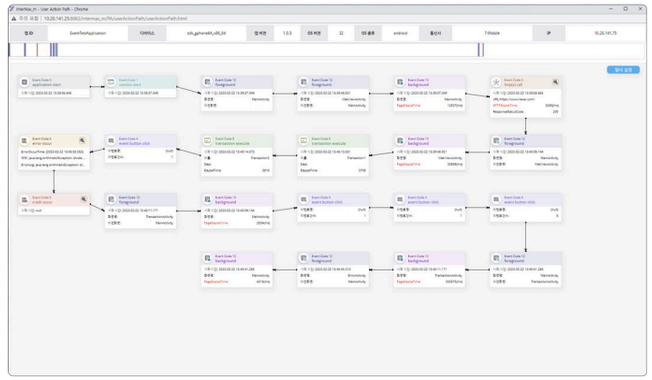
Track the entire user journey from start to success/failure

- Visualize response time, success rate, and failure causes by transaction stages
- Narrow down problem segments through user attribute based statistics (region/OS/app version, etc.)
- Identify network impact through carrier specific segmentation

4 User Transaction Analysis (Data & Traffic Deep Dive)

In depth diagnosis combining user data and network traffic

- Compare user event/action paths with dwell and drop off points
- Cross analyze traffic, latency, error rates by carrier, device, network type
- Reproduce before/after context of issue transactions via timeline



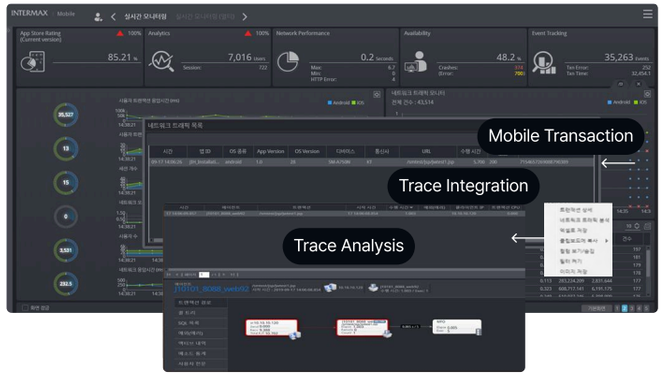
InterMax(APM) Integration

Trace transactions originating from mobile through server tiers to uncover delay causes. Connect mobile ↔ WEB ↔ WAS ↔ DB call flows through APM integration and quickly identify bottleneck tiers and root causes based on transaction identifiers (tid).

1 APM Integration, Detailed Trace Analysis

E2E call tracking connecting Mobile–WEB–WAS–DB in one thread

- Verify detailed Call Traces for delayed transactions through APM integration
- Instantly identify bottleneck points via mobile device ↔ WEB ↔ WAS ↔ DB call relationship diagrams
- Rapidly reach root causes based on transaction identifiers (tid)



Platform Specs

Proxy Server (External Network)

OS: Linux Kernel 2.x / 2.x x86 64bit (CentOS 7+, Rocky Linux 8+ supported)
CPU: 4Core (recommended) / 2Core (minimum)
RAM: 6GB (recommended) / 3GB (minimum)
DISK: Minimum 50GB, calculated per customer
JAVA: 11

Supported Device OS

Android
iOS

Browser (PC)

Optimized for Chrome 73+, Edge 79+
Resolution: 1920 X 1080 (FHD)

Collection Server

OS: Linux Kernel 2.x / 2.x x86 64bit (CentOS 7+, Rocky Linux 8+ supported)
DB: ClickHouse 24.1
CPU: 16Core (recommended) / 8Core (minimum) – varies by mpm_process module count
RAM: 32GB (recommended) / 16GB (minimum) – varies by mpm_process module count
DISK: Varies by monitored APP count (minimum 200GB+, SSD required), calculated per customer
JAVA: 11

Architecture

1 Data Collection

Diverse Operating Devices

- Unified monitoring for Android/iOS native and hybrid apps
- Simple application through SDK provided API calls
- Full hybrid app support via Native/Script SDK communication

Diverse Carrier Environments

- Network traffic analysis by carrier
- HTTP/HTTPS send/receive page processing speed measurement
- Identify bottleneck locations by network segment

2 Data Storage & Processing Layer

Data Collection & Storage

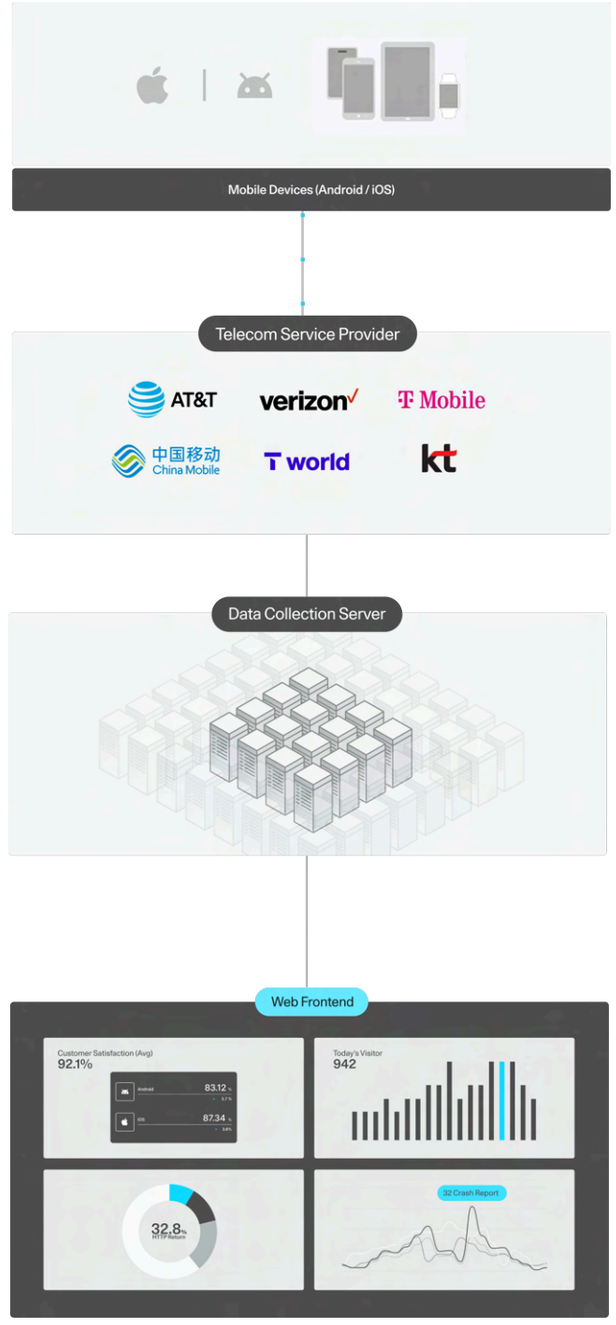
- Crash occurrence trends and error analysis by device/OS/app version
- Store and manage transaction performance data

Data Analysis & Integration

- Analyze entire flow from transaction start to normal/abnormal completion
- Track Mobile-WEB-WAS-DB through integration

3 Presentation

- Real time monitoring of multiple mobile apps
- Developer perspective detailed error analysis
- Alert triggering based on thresholds with analysis screen integration
- Multi faceted customer behavior analysis through monitoring target additions



Data Everywhere,
Make it Matter

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