As the communications landscape evolves and diversifies, one element remains constant — the central role played by email in both B2C and B2B customer engagement.

More than one hundred billion business emails are sent each day, a figure projected to grow eight percent annually over the coming years. To connect and build closer relationships with customers in this competitive environment, you need a messaging infrastructure built with the scalability, availability and performance to deliver sophisticated email campaigns while controlling costs and complexity. At the same time, you need to be able to support essential emerging requirements, from implementing big data analytics to deploying a new generation of messaging channels.

As the messaging technology provider of choice to the world’s largest e-businesses and social networks, and global leaders in banking, consumer technology and telecommunications, Message Systems has unique insight into what the industry needs today. Momentum 4, the latest release of our definitive digital messaging solution, is powered by a new architecture redesigned from the ground up for optimal performance, scalability, high availability and redundancy. The solution empowers our customers to handle their most demanding messaging needs today, while positioning them for a new generation of requirements such as cross-channel, multi-device and mobile messaging; higher message volumes; more complex sending patterns; and the ability to manage and leverage crucial campaign engagement and deliverability data.

Momentum 4 helps you improve engagement by moving message generation from separate transactional, CRM or CMS platforms to the native message generation capabilities of our own platform for better performance and on-time delivery of email and mobile campaigns. Innovative message generation and templating capabilities accelerate execution of your email and mobile campaigns. A completely redesigned user interface allows easy template management and provides real-time access to rich messaging and customer engagement data for deep analytics. A peer-to-peer architecture and API-based integration strategy provide the flexibility you need to adapt quickly and effectively to emerging needs.

Read on to learn more about the main modules and capabilities of the redesigned Momentum 4.
I. Momentum Platform — Raw Power, Precise Control

The engine of the solution, Momentum Platform provides the power and carrier-grade capacity to handle millions of messages per hour on a single server. Our unique Supercharged MTA architecture leverages the full resources of today’s multi-core server systems to process and send messages more quickly, at higher volumes, with reduced hardware requirements.

High-Volume, Individualized Message Creation

Momentum Generation addresses the growing complexity of messaging for businesses. To acquire, engage and retain customers effectively, you need a comprehensive strategy to deliver messages to the right recipients, with the right content, in the right format for the right channel, at the right time. And you have to do it at high volumes — sometimes millions of messages at a time — while incorporating data and assets stored in marketing or operational systems elsewhere in your organization. Most development languages have SMTP libraries, but they’re not geared for bulk message generation in a diversified enterprise environment. The bulk generation solutions that do exist are typically difficult to integrate with the messaging layer, leading to latency and performance issues that delay delivery and undermine your engagement strategies.

Momentum Generation enables high-volume, individualized messaging by drawing the components of a transmission from external CRM, CMS, analytics and business intelligence systems, and then assembling personalized messages for each recipient. Support for both API and an SMTP transmission allows simple integration with virtually any enterprise application. Messages can be submitted individually or in batches to support both marketing campaign purposes, as well as transactional messages that can also be optimized for additional conversion goals, such as upsells and cross-sells.

The Momentum Generation module accepts content, lists and templates from external sources and constructs a message for each recipient.

Simplified Template Management

The powerful Momentum Generation templating engine lets you store and manage templates inside Momentum instead of leaving them embedded in separate systems. The easy-to-use interface allows marketing to take direct control over look and feel, and create brand-aligned messages, complete with key/value substitutions, conditional statements, loops and more, without the need for developer assistance. Templates can be stored for repeated use or submitted in-line along with the rest of the message components during the transmission for efficient one-off usage. Detailed reporting on both online and stored templates helps you maximize the revenue potential of high-converting transactional messages.

Automated Policy Application

A robust integrated policy engine offers powerful server extensibility, allowing you to use the Lua programming language to script email processes and manage APIs to, for instance, automate DKIM, SPF and DMARC authentication, invoke AV/AS screening, look up recipient addresses in a database, trigger sends and handle many other tasks.

Unified, Integrated Messaging for High-Performance Engagement

By providing a seamless, unified platform for your all your campaign and transactional messages, Momentum Platform helps you engage customers more easily and effectively. Built-in message creation with Momentum Generation improves performance and scalability to ensure on-time delivery. Tight integration with existing business intelligence, analytics, CRM and CMS systems enables
you to create and deliver the right message in the right way at the right time to each customer or prospect, with direct marketing control over branding and customer experience.

Enhanced Security and Globalization
Momentum now includes enhanced support for the Transport Layer Security protocol (TLS). TLS has been a major initiative among the world’s largest ISPs and receiving domains. Like its predecessor Secure Sockets Layer (SSL), TLS uses asymmetric cryptography to authenticate message exchanges. TLS encryption ensures compliance with industry standards and improved brand protection for Momentum customers by securing emails during transport.

Additionally, Momentum is the first commercial MTA solution to provide SMTPUTF8 support. A new standard put forth by the Internet Engineering Task Force (IETF), SMTPUTF8 is the email address internationalization extension to the SMTP protocol that allows emails to be sent to non-western addressed recipients. SMTPUTF8 allows for Unicode characters encoded in UTF-8 and outside the ASCII repertoire to be used in mail header fields, giving senders far greater capabilities to reach recipients internationally.

II. Messaging Analytics — Precise Insight into Message Performance
Momentum’s analytics play an essential role for harnessing the full potential of direct communications. While mass advertising can be an effective way to build brand awareness and support marketing through online, print, broadcast and display channels, only direct channels like email, push notifications, SMS/MMS and IM chat can cut through the clutter to enable true one-to-one communication and engagement. By engaging smaller segments and even individual customers with targeted messages, you can increase conversion rates across the customer lifecycle and build enduring, high-value customer relationships.

But as campaigns and transactional message flows grow more complex, you need deep insight into how customers are interacting with your messages to make sure you’re delivering the right information in the right way to increase engagement and impact. Your business intelligence and targeting technologies can help you identify the right recipients, but are your messages actually getting through — or are they being blocked somewhere en route? If they’re arriving, are they actually being opened? Can you track the resulting conversations as they move across channels, as when a customer responds to an email via SMS or chat? Do you have a simple way to assess which campaigns are performing best, and which channel is most effective for each type of message you deliver?

Real-Time Reporting for Agile Marketing
Momentum captures and reports complete data on deliverability and customer engagement in real time so you can track and optimize campaigns on the fly. Easy-to-use dashboards and reports help you navigate and analyze real-time data on message processing and disposition across channels, including metrics like messages queued, delivered, opened and bounced. An intuitive web interface provides simple ad hoc and drill-down navigation so you can zero in on issues and trends, from root causes of delivering problems to emerging opportunities for higher-impact messaging.

High Performance and Big Data Scalability
Skyrocketing message volumes across channels call for a new architecture designed to capture, report and analyze massive amounts of messaging data in real time. With Momentum 4, Message Systems
has migrated from Postgres RDBMS to a widely deployed, highly distributed document store. This open source, high performance, extremely scalable database management system is designed to handle large amounts of operational data across many servers, providing high availability with no single point of failure. The new system was designed around peer-to-peer symmetric nodes instead of master nodes (read and write anywhere). This distributed approach makes for an extremely fault-tolerant high-availability system, and also enables simple horizontal scaling. As data volumes grow, you can achieve linear performance increases simply by adding new nodes through an online interface — and comfortably handle even petabytes of data.

Better Results for Your Customers and Your Business
Combining holistic insight with individual message-level analysis, Momentum makes every aspect of your digital messaging strategy more effective. At a high level, Momentum provides precise visibility into message, campaign and channel performance to help you optimize deliverability and engagement in real time. A full understanding of past trends and patterns guides your development of best practices and helps you design more effective campaigns in the future. On an individual level, the solution lets you drill down to specific messages to quickly solve customer problems, such as issues with spam, lost email or text message delivery. Putting the full value of big data to work for your messaging operations, Momentum helps you meet the rising expectation for an outstanding customer experience, and increase engagement and conversions through continually refined messaging operations.

III. Momentum Bridge — Open APIs for enterprise-wide integration
The increasing diversity of the digital messaging environment, encompassing more enterprise systems, more channels, more types of campaigns and more engagement processes to support, puts a premium on your ability to integrate and customize your messaging platform. In the past, interaction with client enterprise systems meant using proprietary protocols to connect to specific nodes to issue commands, receive responses or retrieve data. As your messaging environment grew and evolved, these customizations lacked the flexibility and scalability to keep up. With Momentum 4, Message Systems lets you move beyond proprietary protocols with a new API-based architecture that makes it simple to leverage and protect your investment in existing applications, data sources and business processes — and adapt to new requirements easily as they emerge.

A full library of hook points and REST APIs based on JSON makes it simple to customize the Momentum platform by exposing solution functionality to outside applications. This design lets you easily access data from your back-end enterprise systems and integrate the solution with the full range of messaging protocols, databases, web applications, diagnostic tools and campaign management processes. For example, you could use a commercial CMS to originate source email text and address lists for an email campaign, use one of our APIs to access and integrate graphical content from a separate database, and then use a second group of APIs to inject or send that email campaign on to your recipients through Momentum. You can use our APIs to monitor messaging activity, perform list hygiene, generate custom bounce messages and handle many other tasks, as well as to build event-triggered or campaign-style messaging into your existing web applications and business processes. You can even write a unique interface to manage all of your end-to-end messaging needs, from creation to delivery reporting.

Momentum Bridge provides a full set of tools to integrate data and content, manage all aspects of message creation and sending, script policies and export data for analysis.
In the past, the manager node represented a single point of failure for configuration and reporting processes; now, the database, configuration and reporting roles can be distributed across a completely redesigned, peer-to-peer architecture to ensure high availability, high performance and easy scalability. API listeners are distributed among nodes to support load balancing and fault-tolerance.

**Flexible, Streamlined Message Injection and Sending**

Momentum Bridge injection and sending APIs enable you to prepare emails with data from enterprise data sources, then send them through any number of queuing and delivery options using the protocols that support email, SMS and MMS text, IM chat and mobile app push notifications. Many of our APIs are designed to use an SMTP exchange to initiate or control actions at multiple points in the message lifecycle, such as to specify policy or actions in cases where your email gets blocked, delayed or marked as spam. Manipulation APIs help process your email through antivirus and anti-spam (AV/AS) systems, let you immediately access feedback loops (FBLs) or logfiles, or initiate actions based on third-party email intelligence services such as Spamhaus or Return Path Sender Score.

**Data Integration for Analysis and Diagnostics**

Momentum APIs extend the reach of your email operations beyond your own proprietary network, such as for lookups on third-party DNS servers and blacklists for email authentication and anti-spam purposes, or more complex integrations with LDAP, ODBC and SQL databases to check contextual information in messages to drive handling policies. You can also push messages to a durable queuing facility for logging purposes, or publish log data to another server in real time for use by business intelligence applications or big data mining tools such as Splunk.

**Powerful Cross-Channel Communications**

Flexible and versatile, Momentum Bridge gives you the ability to build event-triggered or campaign-style messaging into a wide spectrum of business processes, from retail engagement to social media notifications, while fully leveraging your existing data sources, applications and delivery methods. Mobile messaging channels and in-app push notifications extend your reach to on-the-go consumers, helping to increase opens and conversions, and position you to take advantage of location-based notifications and other emerging strategies.

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IV. The Life of a Message in Momentum 4

The message process can be initiated as a complete campaign managed through a CRM or as a transaction-triggered REST injection of data into the platform. In this second case, let’s use an online retail scenario to illustrate the process.

1. Generate Message. A shopper purchases an item from an online retailer, which in turn generates the data for an email receipt. The transaction details and the shopper’s email address are compiled on the retailer’s web servers, and sent to Momentum as a REST injection.

   a. Proxy routes request to HTTP listener.
   b. Message template is accessed from OLTP system.
   c. Substitution engine merges the recipient data with the template.
   d. The generation of the message is now complete.
2. Apply Policy. The message now traverses the policy application phase. In this phase, processes like DKIM authentication are applied. The message is now written to disk.

3. Queue. The message is now queued for delivery, and assigned to a specific binding, usually based on the message’s ultimate destination. For instance, messages going to a Gmail address get assigned to one binding, messages going to a Hotmail address go to another.

4. Deliver. The message is now delivered over the Internet, with Momentum connecting to a remote message exchange (MX) server, at Gmail in this case, to complete the transaction. Gmail returns a “250 OK” code back to the Momentum server to confirm successful delivery.

5. Track Engagement. Server-to-server code exchanges play a critical role in compiling the data needed to track engagement. As these machine-generated messages flow back to the Momentum platform — clicks, email opens, bounces, etc. — operators can track the performance of campaigns and programs in real time. More than ever before, marketers will have the information needed to tweak and optimize mail programs as they’re in progress.

6. Event Hose. Momentum 4 includes updated technology for asynchronously streaming all deliverability and engagement tracking events into the analytics database allowing operators to track the performance of campaigns and programs in real-time while also improving scalability. This “event hose” supports faster and more efficient reporting on message generation, injections, rejections, bounces, delays, deliveries, as well as open and click events captured by the new engagement tracker integrated within the system. Any and all of these detailed events are also available in log files or can be sent directly to your own system in near real-time using web hooks. More than ever before, marketers will have the information needed to tweak and optimize mail programs as they’re in progress.

Conclusion

Anyone familiar with the trade press covering the marketing industry has read at least a few stories predicting the death of email. Usually these pieces take the form of whatever new technology trend is ascendant at the moment as the agent of email’s demise, so for instance “social is killing email” or “mobile will spell the end of email.” Rinse and repeat. Ironically enough, mobile and social have only served to increase our reliance on email — and have opened up entirely new message-based interaction channels including push notifications, IM chat apps and social messaging. Today, 65 percent of all emails get opened on a mobile device.

Meanwhile, technologies including display retargeting and big data analytics have revolutionized how brands market themselves online, enabling companies to specifically target individuals like never before. This ability to precisely target messages in email and other messaging channels has somewhat lagged behind what’s possible with online display, but Momentum 4 changes this equation. With its innovative new analytics tools and ability to integrate any number of data sources via API, Momentum 4 gives marketers and engagement professionals unprecedented visibility into their messaging operations and unprecedented abilities to personalize and target messages for individual recipients. With Momentum 4, your messaging operations are faster, smarter and more effective that ever.