

# 2022 Holiday Peak Readiness

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IBM Order Management

# Your Holiday Readiness Team

—  
... and today's Speakers



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# Today's Agenda

## Journey to Peak Success

### Plan

Retrospective

Platform Enhancements

Best Practices

### How IBM Can Help

### Next Steps



# IBM OMS Holiday Readiness



Our IBM OMS Support mission aims to **proactively partner with you** to identify and address potential risk, while quickly mitigating any issue that does arise.

We have worked relentlessly to establish a **stable platform** and robust collection of proven **self-help best practices** focused on peak performance and stability.

Now we are focused on building a **deeper understanding and engagement** with clients needing direct proactive guidance via our Event Readiness offering.

# Journey to Peak Success

## PLAN

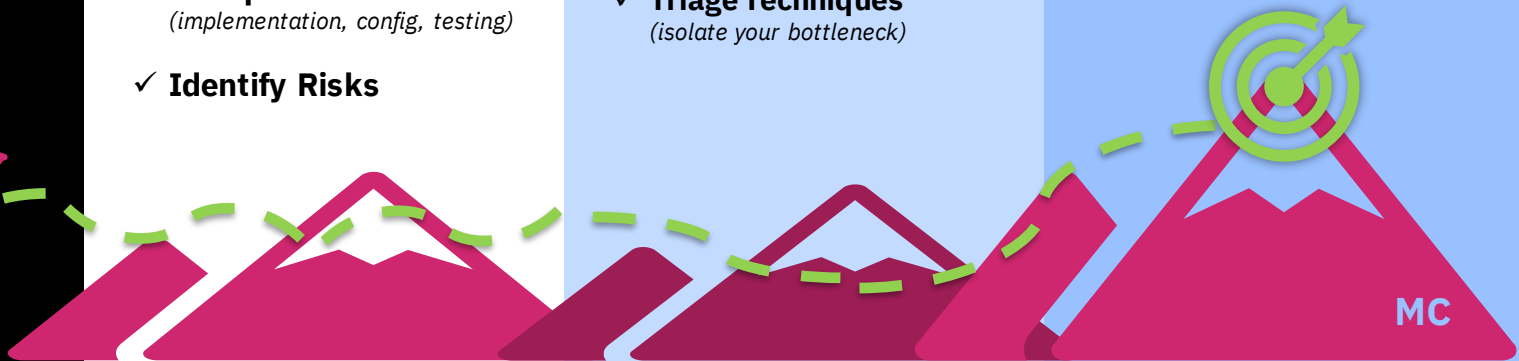
- ✓ **Retrospective**  
*(prior peak events)*
- ✓ **Align Business and IT**  
*(projections, growth, NFRs, SLAs, channels, stores, catalog, inventory )*
- ✓ **Platform Enhancements**  
*(features, fixes, business user enablement)*
- ✓ **Align Schedules**  
*(upgrades, deployments, testing, freezes, peak sale days/times)*
- ✓ **Best practices**  
*(implementation, config, testing)*
- ✓ **Identify Risks**

## PREPARE

- ✓ **Performance test, tune**  
*(load, concurrency, data, integrations, store/call center user interactions)*
- ✓ **Breaking points**  
*(infrastructure, app, middleware, integrations)*
- ✓ **Failover, DR scenarios**
- ✓ **Ongoing housekeeping**  
*(DB optimization, purge, IBM fixes, clean logs, alerts)*
- ✓ **Monitoring & Alerting\***  
*(continuous improvement)*
- ✓ **Triage Techniques**  
*(isolate your bottleneck)*

## EXECUTE

- ✓ **People & process**  
*(roles & responsibilities, 24x7 schedules, escalation paths)*
- ✓ **Job Prioritization**  
*(optimize schedules, disable non-critical processes)*
- ✓ **Workload Prioritization**  
*(segregate key workload including BOPIS, backorders)*
- ✓ **Runbooks**  
*(intervention, mitigation, throttling, emergency change)*
- ✓ **Communication Plan**



# Journey to Peak Success



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# Peak 2021 Retrospective

*The IBM Sterling OMS team perform annual retrospectives after major events to review lessons learned, update and establish best practices, and continuously improve our platform and service delivery*



## IBM

### What worked well?

- ✓ Sharing of latest technical best practices and recommendations
- ✓ Customer-specific recommendations via Event Readiness offering
- ✓ Regular, seamless internal cross-functional collaboration
- ✓ Partnership with Expertise Connect to understand customer implementation, vital information during critical issues
- ✓ Closing the loop on historical alerts and proactive cases
- ✓ Seamless peak execution - clear runbooks, roles & responsibilities

### Improvement Opportunities

- ❑ Earlier customer reach-out and Event Readiness engagement
- ❑ Strengthen proactive customer communication via SST tooling

## Our Customers

### What worked well?

- ✓ Understanding of workloads, KPIs, critical OMS jobs and processes
- ✓ Leveraging visibility into success metrics/KPIs that SST provides
- ✓ Thorough performance testing including additional buffer
- ✓ Being prepared (runbooks, know-how) for quick mitigation actions
- ✓ Trusting and applying IBM best practices and targeted Event Readiness recommendations; validating through performance tests
- ✓ Entering peak with confidence that full preparation has been done

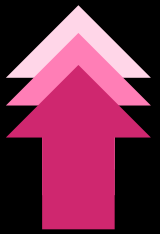
### Improvement Opportunities

- ❑ Ensure implementation of ALL prior pending IBM recommendation, including those through proactive cases, readiness reviews
- ❑ Allocate resources for performance testing/tuning; start EARLY!
- ❑ Maintain clean application logs - review and action errors, warnings
- ❑ Maintain DB hygiene - Purge early, implement on lower envs



# OMS Platform – Core Enhancements

*The IBM OMS team drive continuous improvement into our core platform to promote performance, stability, resiliency, self-service, and security*



## Release 21.3

[Release Notes](#) 

### Enhanced entity deployment

- Improved entity deployment (dbverify) to ignore DB2 REORG after every ALTER SQL statement; run only for specific ALTERs which require reorganization

### Enhanced server termination to address RMI broadcast challenges

- Improved graceful termination of agent/integration servers to minimize impact on RMI communications due to graceful or hard termination of servers

### Application-level DB compression

- Out of the box data compression for MESSAGE > 1MB while persisting to YFS\_REPROCSS\_ERROR

### Stack upgrades

- DB2 upgraded to 11.5.7, Struts is upgraded to 2.5.26

## Release 22.1

[Release Notes](#) 

### Enhanced data extracts

- Improved the data extract for handling backup database while syncing data during the database maintenance and long running REORG.

### Log4j version upgraded to Log4j2

- As of Minor update 1, IBM® Sterling Order Management uses log4j2 for the logging and does not ship the log4j v1.2.17.jar file ([Details](#))

### MQ connection stability and resilience enhancement

- (As of late-April) Server-side heartbeat interval (HBINT) has been adjusted to lower value to avoid frequent idle termination

## On the horizon ...

### DB Maintenance enhancements

- Documented database maintenance strategy, and *your* role in maintaining the database health
- Enhance maintenance monitoring
- Timeboxed database maintenance activities
- Visibility into maintenance schedule via SST.

### MQ Maintenance

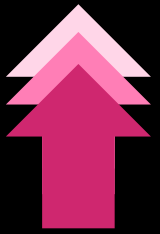
- Documented MQ maintenance and FAQs

.... and more!

*Continuous improvement to monitoring, alerting, runbooks*

# OMS Platform – API Enhancements

*IBM recommends you review our critical API enhancements and implement the changes needed to enable performance optimization. Be sure to understand behavior and ensure no impact to order flow!*



## reserveAvailableInventory

- With Inventory Visibility Integration (phase 2) and later, the **ReserveAvailableInventory** API is enhanced to combine reservation calls to Inventory Visibility, whenever applicable.
  - Therefore, you must set **yfs.UseAggregatedReservationsForIV** property to “Y”.
  - Note: In major upgrade 22.2 this aggregation property will be enabled by default.
- The smart sourcing logic of IBM Sterling Inventory Visibility (phase 2) is disabled.

## createOrder & changeOrder

- The SQL query to fetch records from **YFS\_REGION\_DETAIL** and **YFS\_ITEM** in the **createOrder/changeOrder** API is optimized to improve performance when creating or changing large orders.

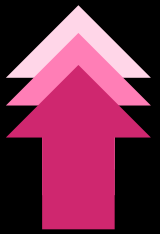
## manageCapacityReservation

- The **manageCapacityReservation** API enhanced to support locking for capacity availability for Service resource pools (PS/DS), Locking happens depending on parameters passed in **yfs.properties**
- New attribute **LockCapacity** has been introduced:
  - To avoid locking for capacity availability, set **LockCapacity="N"** in **manageCapacityReservation** input.
- The **manageCapacityReservation** API enhanced to update capacity during transaction commit, similar to order and inventory reservation APIs.
  - If **yfs.yfs.persistCapacityAdjustments** is set to **true**, pass **PersistCapacityAdjustments="Y"** in **manageCapacityReservation** API so that capacity is updated only when a transaction is committed

## getResourcePoolCapacity

- The **getResourcePoolCapacity** API enhanced to read capacity availability from **Capacity Cache**.

# OMS Platform – Service Enhancements



*To maximum value, and minimize issues, ensure you are aware of, and leveraging the latest enhancements to the various Services available within Order Management.*

## Inventory Visibility (IV)

### Enhanced configuration API

- Provide **jobId** to allow client to eliminate concurrency and have better status checks
- Ship Node manage APIs
- Distribution Group Update

### Optimized performance of certain configuration update (PATCH) APIs

- Safety Stock, Fulfillment Options ([KC Link](#))

### Event Thresholds

- Added node threshold-based events ([KC Link](#))

## Self-Service Tool (SST)

### Event calendar for environment upgrades

- Track major upgrade and events ([KC Link](#))

### Viewing maintenance events

- Calendar view for awareness of scheduled maintenance events to avoid potential impact

### Manage remote queues

- Ability create, manage remote queues ([KC Link](#))

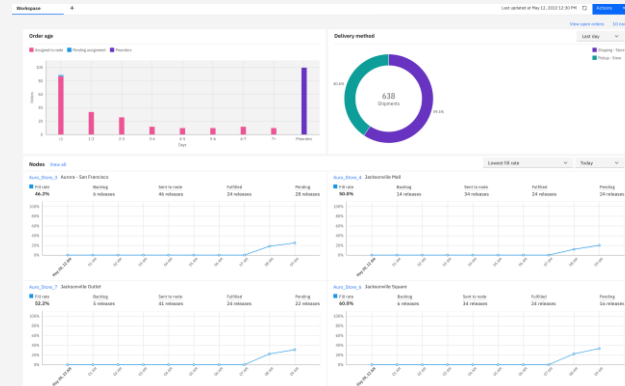
### On the horizon...

- Notification Banners to ensure awareness of critical action items
- Inbox feature to receive important notifications and manage actionable items

## Order Hub (OH)

### Enhanced Workspace

- (OMoC 2.0) Display metrics and key performance indicators in real time



# Best Practices – Introspection & Housekeeping



*To be best positioned for peak success, it is critical to TAKE ACTION NOW!*

*Look inward to understand your current gaps, and ensure ongoing housekeeping tasks are performed.*

## Introspection

- ❑ **Retrospect on your past incidents**- audit and evaluate any ad-hoc mitigatory actions/changes and drive improvements to avoid/automate them or redesign the impacted feature/function
- ❑ **Review API enhancements** and any previous outstanding IBM recommendations and implement them now.
- ❑ **Address your known design issues** and limitations as identified thru IBM engagements, or ensure mitigation in place
- ❑ **Verify and enhance external integration logic** as per the best practices (timeouts, retries, failovers, certificate management / expiry, etc.)
- ❑ **Validate performance test profile** and scenarios based on the previous peak volume/usage ([KC link](#) for OMoC 2.0)
- ❑ **Collaborate early with business users** (Store Associates, CSRs, etc) on expectation and current challenges, address them

## Housekeeping

- ❑ Ensure production and preproduction master & configuration data sets are identical
- ❑ Populate preproduction transactional data by running frequent tests
- ❑ Keep the MC environment in sync and up-to date with other OMoC and toolkit environments
- ❑ Compare and ensure properties across all environments are in sync
- ❑ Neglecting/avoiding warning reported by business users could impact resolution of critical issue
- ❑ Review custom indices and schema changes, remove unused indices
  - ❑ Identify and address potential DB indices mismatch between environments.
- ❑ Participation and review proactive case to ensure proper closure

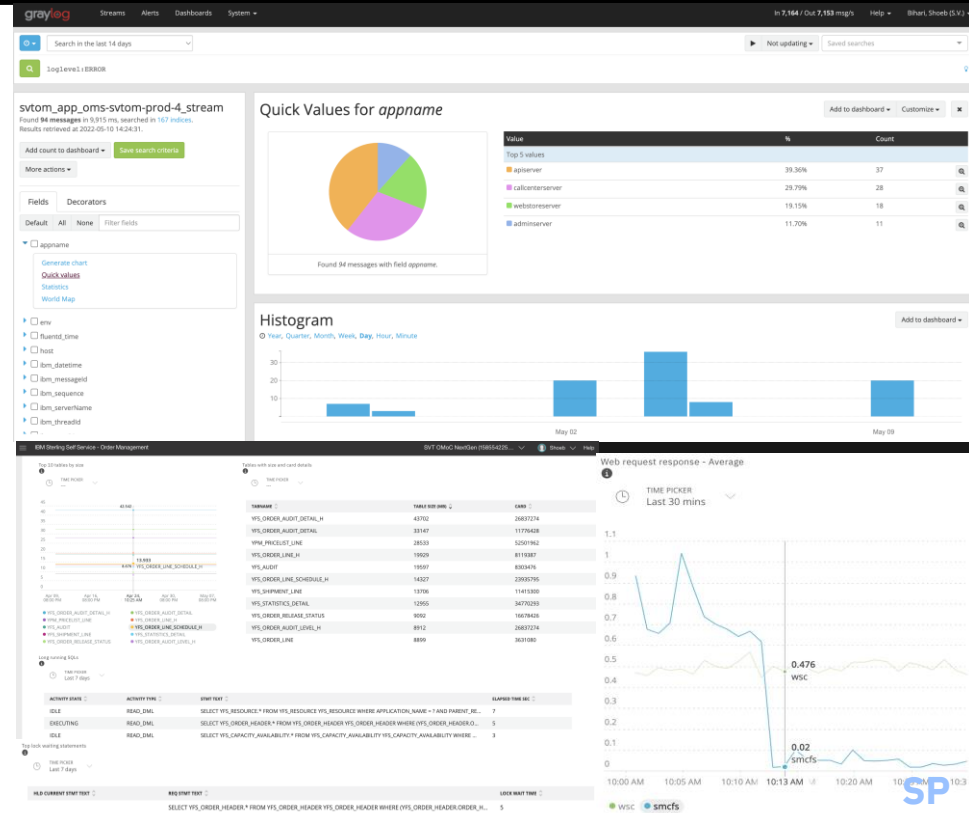
# Best Practices – Self Service Tool

*You have an ongoing role in being proactive! Maintain the health and performance of your OMS applications leveraging capabilities of the Self Service Tool.*



## Self-Serve Tool

- ❑ Review production performance metrics to ensure there are no anomalies or excessive errors, understand the NORMAL usage.
- ❑ Dashboards are available to help proactively monitor application usage and performance ([KC link](#))
- ❑ Graylog for OMoC 2.0
- ❑ Review DB size and table growth to ensure adequate purges are enabled and running.
- ❑ DB performance dashboards is available to help proactively monitor DB usage and performance ([KC link](#))
- ❑ Proactively review most expensive and long running queries both in production, load tests, and optimize them to avoid contention which will increase further under heavy peak load (rework, add index, RUNSTATS)



# Best Practices – Lower Environment Health

*Are your lower environments healthy? Maintaining Dev and QA environments can prevent disruption in production, and allows you to promote best practices/configurations to the production early on*



## It all starts with your lower environments!

### MQ Queue Depth and Message Size

- Take action to ensure corresponding servers are healthy. Check on queues with very high queue depth, and for large message size.

### Application exceptions

- Using Graylog/SST review errors and ensure errors are addressed to avoid noise, which could become misleading if new critical issue arises.
- Ensure **trace is disabled** on any API, and not left over from prior debug which will cause massive slowdowns and instability.

### JVM tuning

- Select correct JVM profile (\*OMoC NextGen) based on analysis from verbose GC logs or your -Xmx/-Xms parameters(Legacy)

### Database Hygiene

- Ensure all necessary purges are running to maintain healthy & lightweight database, which in-turn minimizes performance issues
- Disable unnecessary transaction audits (Order Audits, General Audits, etc)
- Periodically review table size and cardinality of the dataset. Focus on following critical tables:
  - YFS\_EXPORT/YFS\_IMPORT
  - YFS\_AUDIT
  - YFS\_ORDER\_AUDIT\_DETAIL
  - YFS\_ASYNC\_REQ / YFS\_ASYNC\_REQ\_ERROR
  - YFS\_ORDER\_RELEASE\_STATUS
  - YFS\_INBOX/YFS\_REPROCESS\_ERROR
  - YFS\_INVENTORY\_SUPPLY\_TEMP
  - Any custom tables with CLOB/BLOB data

# Best Practices – Growing Foundation

*The IBM Sterling OMS Support team are continuously expanding our technical best practices based on the observations and learnings over our supported launches and peak events!*



## Application & Database

- ✓ Configuration of APP, AGT, INT servers
- ✓ Housekeeping and maintenance
- ✓ Minimize contention, maximize concurrency
- ✓ Optimize long-running or expensive queries
- ✓ Transactional table size and purge validation



## Integration

- ✓ MQ configuration tuning
- ✓ Batch feeds
- ✓ Call Center and Store operations
- ✓ Upstream eComm synchronous calls
- ✓ Inventory Visibility



## Tools & Techniques

- ✓ Self-Serve Tool dashboards
- ✓ Representative load testing
- ✓ Find the bottleneck
- ✓ Understand your backlog
- ✓ Segregate, prioritize, throttle critical workloads



# Best Practices – Proactive self-audit checklist



*Proactively audit the production environment to identify, correct known issues in config or operation across performance, database, MQ, HotSku, RTAM, purge, and external integration.*

- ❑ Validate RTAM configuration; validate activities created by node capacity changes. Review GC overhead caused by RTAM server, if its high then consider increasing the JVM profile (i.e. heap size) ([link](#))
- ❑ Review and tune HotSKU and OLA configuration for YOUR business scenarios; check for low inventory items INV\_INVENTORY\_ITEM\_LOCK([link](#))
- ❑ Review MessageBufferPutTime relative to ExecuteMessageCreated statistic from YFS\_STATISTICS\_DETAIL table for any slowness; ensure JMS properties are in place. ([link](#))
- ❑ Validate MQ settings, avoid long-running transactions, ensure necessary queue-depth alerts. ([link](#))
  - ❑ Enable retries for JMS Sender (i.e., PUT(s) message via service flow)
- ❑ Optimize long-running or expensive queries; check for lock-waits and frequent timeouts (i.e., YFC0006, YFC0009)
  - ❑ Verify the performance of YFS\_PERSON\_INFO queries. ([link](#))
- ❑ Validate transactional table sizes to ensure necessary purges are being run regularly, but disabled during peak
- ❑ Review reference data cache; catch redundancy by analyzing application logs for frequent cache drops (i.e., 'Clearing cache'). Frequent refreshes of MCF reference data cache can lead to performance issues. ([link](#))
- ❑ Identify the use of deprecated APIs (SIP/IV)
- ❑ Reduce message payload by optimizing API, event templates, pull only required data.
  - ❑ Restrict output by setting the MaximumRecords in the inputs to any list API calls; use pagination ([link](#))
- ❑ Review long running user-exit's (external calls) by reviewing maximum YFS\_STATISTICS\_DETAIL.STATISTIC\_VALUE. Implement timeouts.
- ❑ Review order and shipment monitors for redundancy, review and remove obsolete monitor rules.
- ❑ Review agent criteria to ensure GetPendingJobs feature is used as needed. ([link](#))
- ❑ Review errors and ensure errors are addressed to avoid noise, if not address it could mislead during crunch time, also it could cost performance during elevated load, impacts our ability to monitor the system effectively.
- ❑ Review orders for large number of charge transaction due to unforeseen payment condition and address them.
  - `select order_header_key, count(*) from yfs_charge_transaction group by order_header_key having count(*) > 200 order by order_header_key desc`



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 **How IBM Can Help**

### Next Steps



# Enhanced Event Readiness

*IBM Sterling experts are available through a 3-5 month comprehensive technical engagement to help proactively prepare for peak season success on the IBM Order Management solution.*



*First come, first serve!  
Contact your IBM CSM or  
account team for details!*



## Performance Health Check

*A performance health check performed by an IBM Expert Labs Performance Expert, with a comprehensive technical review of your IBM OMS solution and a set of recommendation to achieve performance and stability.*

- ❑ **Application tier review** including analysis of application, agent, integration server configs, error logs, potential transaction bottlenecks
- ❑ Identify potential **risky integration points** for synchronous and asynchronous calls,
- ❑ Review maintenance, monitoring, housekeeping
- ❑ **Database tier review** including evaluation of health metrics on both transactional and non-transactional tables, DB monitoring (locking), DB configuration
- ❑ **Overall infrastructure health check** including analysis of resource usage reports, capacity planning, in-depth technical stack review (as needed)



## Proactive Consultation

*An ongoing proactive consultation by the OMS Support Performance Squad, with prescriptive recommendation based on our vast experience and consolidated best practices in performance, stability, and peak volumes.*

- ❑ **Technical enablement** of best practice config, proactive housekeeping, leveraging SST tooling
- ❑ **Proactive consultation** including test coverage, OMS workload prioritization, runbook preparation
- ❑ **Gap analysis** of application configuration, and validation of alignment to proven best practices
- ❑ **Risk identification** based on production operation, monitoring, utilization, projected workloads
- ❑ **Retrospective** to ensure closed loop on historical critical Support cases, production alerts
- ❑ **Stand-by Support** of SMEs informed of your solution, available during critical business periods



## Support Advocacy

*Ongoing high-touch cadence and communication by a named IBM Support Advocate to guide the engagement, reporting, tracking, completion of recommendations.*

- ❑ **Planning** to help schedule and maintain the overall program execution and track tasks, deliverables
- ❑ **Project Reporting** to track consolidated IBM recommendations, action items, owners, and completion
- ❑ **Discovery session** to help IBM teams understand client expectations, projections, and risks/concerns
- ❑ **Ongoing elevated Support visibility** of critical cases and escalation of potential blockers to your event
- ❑ **Retrospective** post-Event to review lessons learned and better prepare you for your next Event

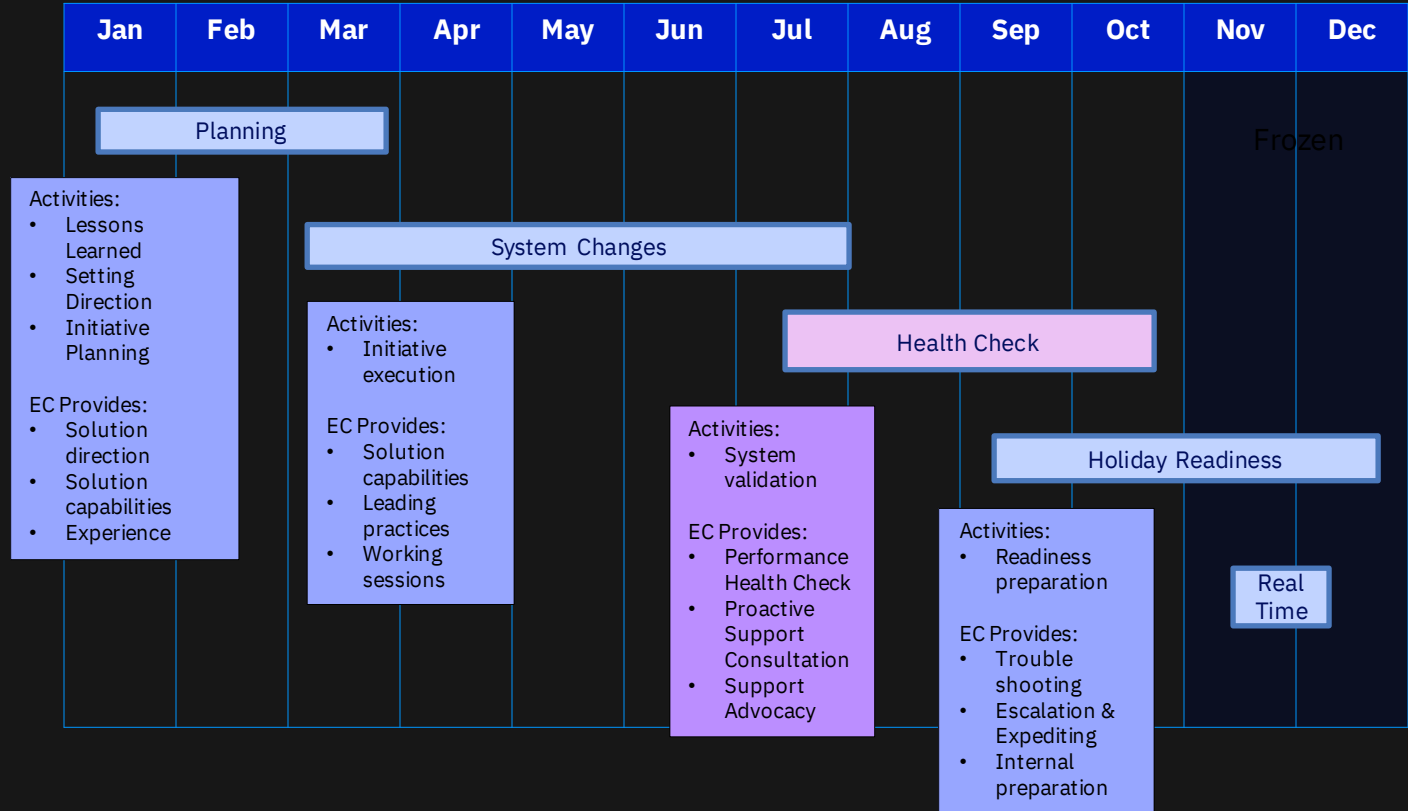
# Holiday Readiness – Technical Account Managers



*Technical Account Managers take a holistic approach ensure you are adapting to ever-changing business requirements*

Ensures success in implementing changes leading up to the holiday season

- Upgrades
- Migrations
- Expanded processes



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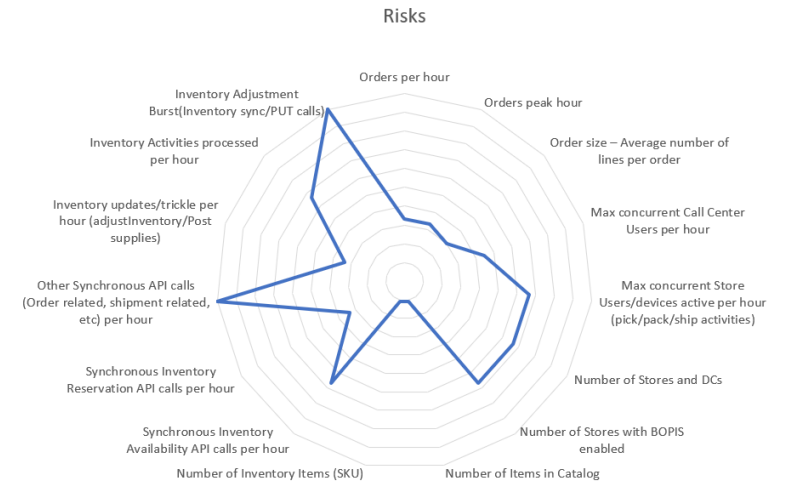
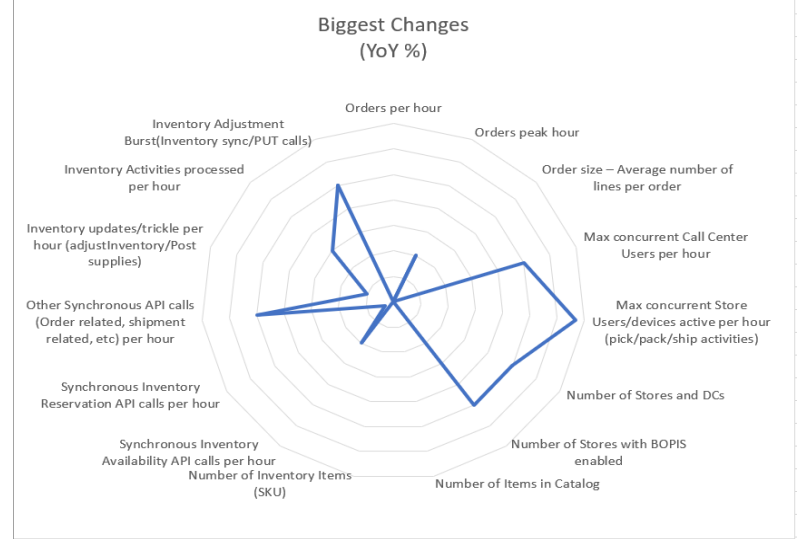
# Risk Self-Assessment



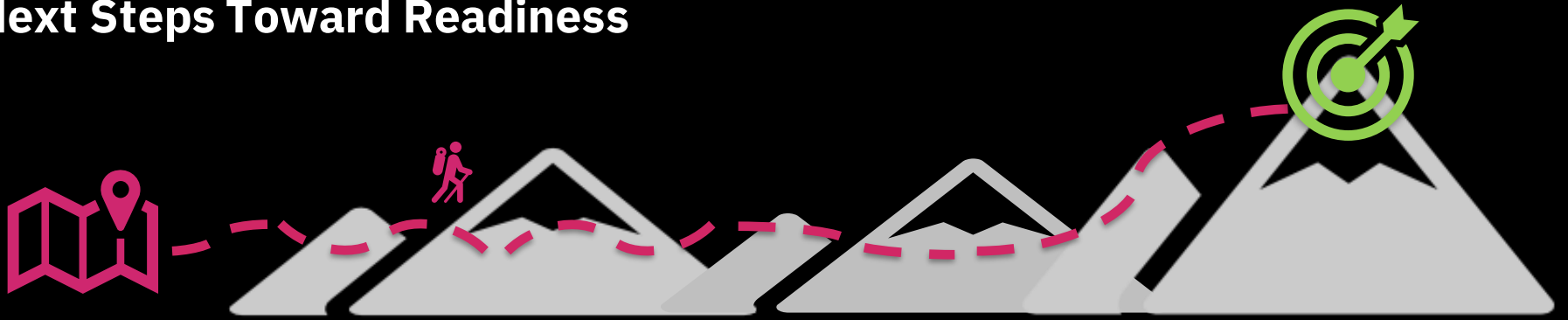
*IBM OMoC team recently released our annual Holiday Readiness Questionnaire.*

*Take the opportunity for self-assessment and jumpstart the conversation on how IBM can help with your concerns!*

**Holiday Readiness Risk Self-Assessment**  
[ibm.biz/OMS-EventReadiness-Qs](http://ibm.biz/OMS-EventReadiness-Qs)



# Next Steps Toward Readiness



1

Begin to Plan *your* Peak 2022 journey through an introspection, and regular housekeeping based on published self-help best practices

2

Complete Risk Self-Assessment and discuss results and concerns with your IBM CSM

[ibm.biz/OMS-EventReadiness-Qs](https://ibm.biz/OMS-EventReadiness-Qs)

3

Contact your IBM CSM to discuss IBM engagement through Enhanced Event Readiness

4

Join us again in July for more in-depth technical best practices and case studies!

# Questions?

Click **Participants** and then click **Raise hand**  next to your name.

For additional information, please contact:

—

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