

Informix roadmap und Version 12.10.xC7

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Decades of Informix innovation

Informix V9.4, V10, V11.10 (all EOL'ed)

Informix on zLinux
 Informix Workgroup Edition
 Informix Red Brick V6.20

Column level encryption
 Informix Express
 Informix XPS V8.50
 Informix .NET provider
 Red Brick V6.3

Database Encryption Expert
 Active-active Clustering
 Informix XPS 8.51
 SQL Admin API
 Common Criteria Certification
 Web 2.0 drivers and support

Informix V11.5 EOS 2018

OpenAdmin Tool (OAT)
 SQL Warehousing Tool (SQW)
 Storage Optimization (compression)
 InfoSphere CDC Support
 Informix in Amazon and IBM Clouds
 IBM Mashup Center
 Embeddability Toolkit
 Informix System X Cluster configurations

Informix V11.7

Informix Warehouse Accelerator
 Informix Flexible Grid
 TimeSeries benchmark
 Informix Genero
 Default content store for Cognos Express
 Rolling Upgrade
 Security Enhancements - Trusted Context
 Informix Smart Meter and Sensor data plays
 IDS gets more XPS features
 Informix open source project initiative

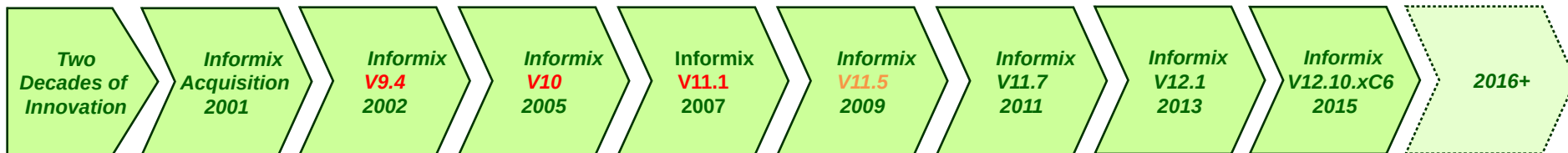
Informix V12.1

Solves big data challenge on sensor data
 Right/real-time in-memory analytics
 Admin via OAT
 IDS and IWA support for OLAP and BI support
 BLOB and Index compression
 Dynamic compression
 Primary Storage Manager
 Faster and easier backups
 Faster transactions and analytics
 Easier private cloud and distributed grid systems
 Mobile OAT
 Native JSON and MongoDB API compatibility
 Multi Tenancy
 Sharding/Distributed parallel queries

Informix

15 Years and counting – IBM Informix

Informix Release Milestones:



Informix 12.10.xC7 features/enhancements

- **Informix Warehouse Accelerator**
 - Enable in-memory technology on Power8 Little Endian

We want to be able to use new HW for IWA besides Intel x86-64

Informix 12.10.xC7 features/enhancements

- **History function in dbaccess**

history of SQL commands in dbaccess

Dbaccess -his stores_demo -

- Dbaccess provides command history logging which makes it easier to re-execute commands

Informix 12.10.xC7 Customer features/enhancements

- **Extensibility**

- Spatio Temporal Search - Phase 2

We need to be able to query past and present locations and values for each sensor

- TimeSeries Pattern Matching - Phase-2

Many of the mechanical components for which we are collecting timeseries data have well defined patterns that reflect wear, and thus upcoming failure. We'd like to be able to provide an algorithmic representation of this pattern and have the database engine determine whether the wear condition is present when loading the timeseries data.

Informix 12.10.xC7 Customer features/enhancements

- **Extensibility**

- Rolling Window for Hertz TimeSeries

we have an application that records sensor data 50 times per second for thousands of devices. We have a requirement to keep one week's worth of data online, but want to archive data as it gets older than one week. Managing the space requirements for this table is difficult as there is no way to automatically detach the storage for this type of data as it hits the specified age. With the massive amounts of data that we have to manage, we need the database to enable and disable pre-allocated storage containers (fragments) for this regular frequency (Hertz) timeseries data.

- Spatial support for GeoJSON

Support to the spatial data type to create GeoJSON values from spatial values and to generate spatial values from geojson values.

Informix 12.10.xC7 Customer features/enhancements

- **High Availability**

- Support for "Consistent hashing" data partitioning for Informix Shard Definition

we need a way to make adding and removing nodes (computers) to the Informix cluster faster. Currently, we are using a hashing scheme to distribute data across the nodes. When we add or remove a node, most of the data gets moved, either to the new node or between existing nodes. We need a mechanism to distribute our data across our sharded cluster without moving all the data whenever we add or remove a node.

- deadlock issues with parallel CHECK REPAIR

Cisco customers see deadlocks and 'repair jobs' being aborted while running parallel 'CHECK REPAIR' jobs. Cisco uses parallel check repair jobs while installing call manager product. Without this enhancement call manager team cannot rely on parallel 'check repair' functionality.

- Add constraint name to ATS/RIS files when they are generated due to foreign key constraint issues

Reduce time spent in diagnosing problems related to transactions aborted due to referential constraint failures while replaying transactions at ER target server.

Informix 12.10.xC7 Customer features/enhancements

- **Wire Listener**

- MQTT Listener

Ability to send sensor data directly to the database. I can configure my sensors to publish readings to MQTT and would like to have my Informix database be able to ingest this sensor data directly, using MQTT.

- Mongo 3.2 API Support

the latest versions of MongoDB's programming language drivers (JDBC, Python, node.js, etc), in order to ensure the latest security and functionality enhancements for our customers. In order to continue to be able to run our hybrid applications with Informix as well, we must be able to use the same MongoDB 3.2 drivers with Informix.

- TimeSeries Aggregation Queries

Add support for aggregations using the TimeSeries *AggregateBy* function. In the Mongo aggregation framework this is done with a \$group by a \$calendar object. The supported aggregation operators for timeseries data will be: \$sum, \$avg, \$min, \$max, \$median, \$first, \$last, \$nth

Informix 12.10.xC7 Customer features/enhancements

- **SQL**

- BSON Update Function

Update the wire listener to default to server side updates using bson update

- COALESCE function

Customers can now evaluate a series of expressions to return the first non-null value by running the COALESCE function.

- NOVALIDATE option for check constraints

The NOVALIDATE keyword prevents the database server from checking every row for referential integrity during ALTER TABLE ADD CONSTRAINT and SET CONSTRAINTS operations on foreign-key constraints.

- **Other enhancements/updates**

- Power PC LE certification:

Certification of IWA with 12.10.xC7 on Linux Power PC LE was completed successfully

- Informix on Flash storage system:

A white paper was published on the benefits of using IBM FlashSystem storage with Informix.

Informix 12.10.xC7 Customer features/enhancements

- **Open Source contributions**

- Informix Node.js driver update (Node.js v4.4.5 LTS)

I want to use a native node.js driver for Informix database server and be able to download/install it through the Node.js package ecosystem (npm). In addition, I want to be able to use all the supported APIs from latest stable version of node.js (v4.4.5 LTS) within my application.

https://www.npmjs.com/package/ifx_db

Informix to Spark streaming prototype

perform distributed stream processing and advanced analytics on my transactional data to gain real time insight for my business. Instead of batch processing, I need to stream the transactional data to a stream processing engine without disrupting or adding complexity to my transactional data which drives my business. I need a way for my operational (relational/NoSQL) database to stream the transactional data to an external distributed stream processing engine through a well-known/universally supported protocol like MQTT.

Current status:

- RTP – 6/7/2016
- EGA – 6/23/2016
- pGA - 7/6/2016

Technology roadmap for 2016 and beyond

- ✓ Informix continues as strategic database in IBM IM
- ✓ Leading capabilities in Operational BI, smart and big data, embedded, cloud and distributed systems
- ✓ Keep growing presence and choice for best and most challenging systems, environments and solutions

- ✓ Mobile Application Development
- ✓ Next-gen Integration Enhancements
- ✓ Improved Cloning Support
- ✓ Continue Simplification
- ✓ Cognitive and Autonomic capabilities
- ✓ IoT developer enablement
- ✓ Additional Oracle compatibility feature requests, as prioritized
- ✓ End of Life v11.5 in 2018

Informix
12.1

2013
to
2015

2016

V12-next*

2017

Release*

2019

2021

- ✓ IoT platform integration
- ✓ IWA Enhancements, ports

Applications

- ✓ Security and auditing improvements
- ✓ Cloud deployment patterns
- ✓ More sensors-generated data enablement
- ✓ Additional platforms like Android, SBCs
- ✓ Operational analytics/BI on sensor data
- ✓ Real-Time Analytics and more OLAP
- ✓ Enhanced Distributed Processing on Grids
- ✓ Platform, OS and integration certifications
- ✓ Client offering simplification

★ Features and timeline subject to change. Informix practices continuous delivery.

IBM Informix technology focus areas for next 5 Years

IoT and BigData	Analytics	Smart Gateway	Administration and Embed	Cloud
<ul style="list-style-type: none"> ★ Optimization for scale-out and loading data ★ Sensors in motion ★ Pattern matching functions ★ Analytics – Quark/Spark ★ BigData (Hadoop) support ★ Further Spatio-temporal integration 	<ul style="list-style-type: none"> ★ Additional support for streaming analytics requirements ★ Cognitive capabilities like push notifications to applications ★ TimeSeries analytics performance improvements in query acceleration 	<ul style="list-style-type: none"> ★ Automatic upgrade ★ Security & auditing enhancements ★ Support new gateway platforms ★ Scale-out at gateway 	<ul style="list-style-type: none"> ★ SQL compatibility & application portability ★ Smart and Autonomic/Self-Healing capabilities ★ 3rd party and IBM solution compatibility / interoperability ★ Hand held devices 	<ul style="list-style-type: none"> ★ Additional SaaS offerings ★ Scalability enhancements ★ Multiple Cloud deployments seamlessly ★ Simplify / automatic setup ★ Enhancements to distributed queries ★ Continuous delivery model
Ongoing Enhancements				
SQL enhancements	OLTP and OLAP performance	Ease of use and administration	Developer eco-system	

Speeding cognitive business: Cutting-edge IBM FlashSystem and IBM Informix solutions accelerate the pace of 21st century business



- Manage the challenges of highly variable applications with IBM® Informix® databases
- Accelerate business-critical applications with IBM FlashSystem® storage
- Achieve 48 times better NoSQL performance with IBM Informix and IBM FlashSystem together
- Lower the cost and complexity of doing business in the 21st century

[http://www.ibm.com/common/ssi/cgi-bin/ssialias?
subtype=WH&infotype=SA&htmlfid=TSW03383USEN&attachment=TSW03383USEN.PDF](http://www.ibm.com/common/ssi/cgi-bin/ssialias?subtype=WH&infotype=SA&htmlfid=TSW03383USEN&attachment=TSW03383USEN.PDF)

Speeding cognitive business: Informix to be included in Intel Broadwell launch



- Broadwell next release after Haswell
- Performance on a 4-socket system with Haswell processors vs. Broadwell processors
- **The best results without IWA reconfiguration is:
+26.9 %**
- Lower the cost and complexity of doing business in the 21st century



<https://registry.hub.docker.com/u/ibmcom/informix-innovator-c/>

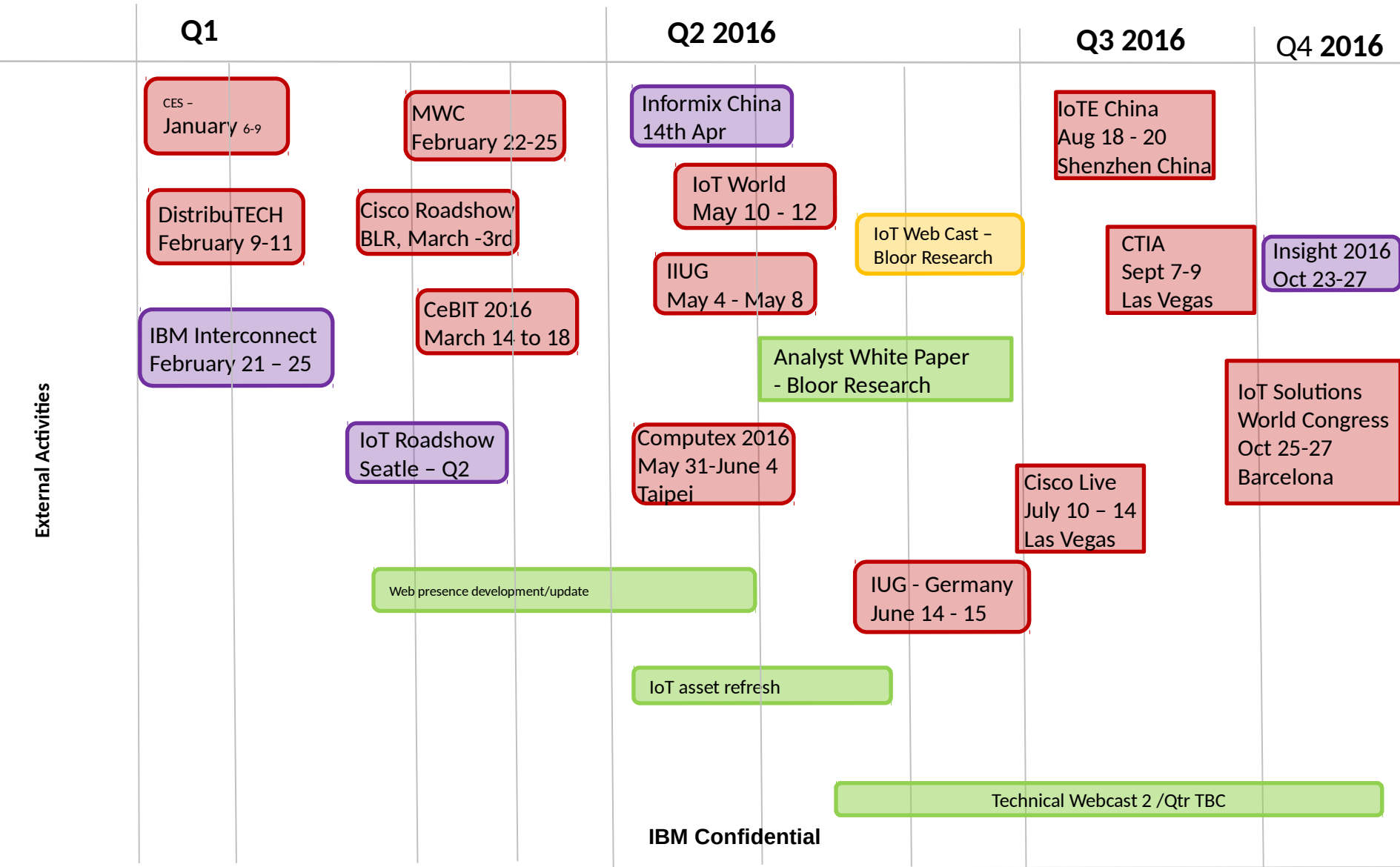
- IBM Informix Innovator-C
- 12.10.FC6

```
$docker pull ibmcom/informix-innovator-c
```






<https://registry.hub.docker.com/r/ibmcom/informix-rpi/>

- IBM Informix Developer Edition for Raspberry Pi (32bit)

Informix Marketing Calendar Overview



Informix Social media Performance Highlights- 2015

Channel	Highlights
	<ul style="list-style-type: none"> • 26.7 million estimated impressions for Informix in 2015 • 13713 Twitter mentions for Informix (including Retweets and Replies) • Collaboration with cross-IBM social channels like “IBM IoT” and IBM Big Data for joint promotions
	<ul style="list-style-type: none"> • Article “Informix as a small -footprint device database” had highest reach and engagement • Post talking about the IIUG 2016 conference had the second highest reach • Demo of Parallel Sharding using Informix was very popular
	<ul style="list-style-type: none"> • Engagement of event attendees by uploading presentations on Slideshare. • Presentations from IBM Insight 2015 were viewed close to 8000 times. 150 downloads • Approximately 7000 views for the slides from the IoT microevents with ~260 downloads
	<ul style="list-style-type: none"> • More than 2000 views for the Internet-of-Things videos highlighting Informix capabilities for IoT • 5 new Partner videos were uploaded. 1 Demo video of new Informix feature – Parallel sharding • Smart Building demo featuring IBM Informix was recorded and published on Youtube • Interviews with the IIUG Board of Directors was hosted on Youtube
	<ul style="list-style-type: none"> • Drove attendees to IoT Microevents with focus on Whitespace audience through a combination of one-to-one marketing and broadcast messages <ul style="list-style-type: none"> ✓ High attendance rates for Micro events (75% -90%) in Mexico , San Diego, San Jose ✓ Startup communities showed interest in our events. • Announcements on groups like “Database Experts” about key releases, new features etc • Promoted Informix Roadshows across multiple cities in NA through LinkedIn discussions

IBM Informix: You have the right tool for the job – all in one toolbox!

- ***Outstanding Performance and Uptime***
- ***Application Development via modern APIs***
- ***Hybrid storage and hybrid applications with data consistency***
 - The only database that can be utilized and provisioned on heterogeneous, commodity hardware, different O/S, and different database versions
- ***Modern interface providing JSON and BSON native support***
 - Flexible schema support allows rapid delivery of applications
 - Compatible with all MongoDB programming interfaces
 - Connect the same app developed for MongoDB to Informix
 - Access Relational, TimeSeries, Spatial, Graph data from NoSQL application
- ***Super scale out***
 - Scale out to multiple nodes, multiple versions, multiple copies
 - Provide diskless and disk-based scale out at individual nodes with automatic failover
 - Provide sharded operations (Insert, Update, Delete and Query)

THANK

The word "THANK" is rendered in large, bold, light blue letters with a slight drop shadow. Each letter contains a different portrait of a person. The 'T' shows a man in a white shirt and orange tie. The first 'H' shows a woman with dark hair. The 'A' features a man with a green face and a hand on his forehead. The 'N' shows a woman with dark hair. The 'K' shows a man with glasses. The background within the letters is a light blue color.

YOU

The word "YOU" is rendered in large, bold, light blue letters with a slight drop shadow. Each letter contains a different portrait of a person. The 'Y' shows a man in a white lab coat looking down. The 'O' features a man in a white shirt and orange tie. The 'U' shows a woman with dark hair. The background within the letters is a light blue color.