



# ***Global Positioning System Status***

## ***Sixth Meeting of the International Committee on GNSS***

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*GPS Chief Engineer*

*5 Sept 2011*



# *GPS Constellation Status*

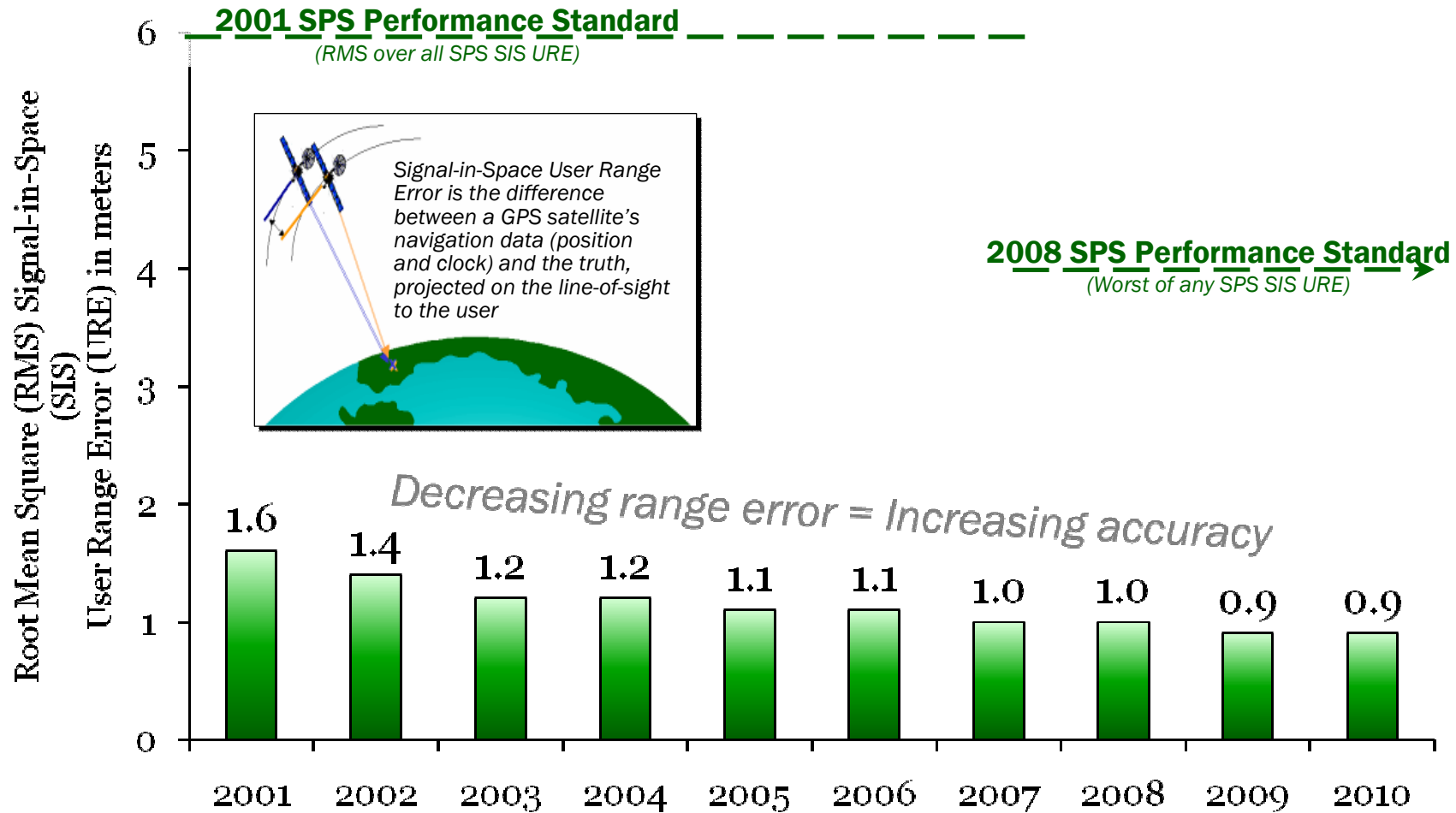
## **30 Healthy Satellites** **Baseline Constellation: 24**

- 10 Block IIA satellites
- 12 Block IIR satellites
- 7 Block IIR-M satellites
- 1 Block IIF satellites
  - IIF-2 launched July 2011
  - Set healthy date TBD
  - Two operational L5 signals
- Next IIF Launch 2012





# Standard Positioning Service (SPS) Signal-in-Space Performance





# GPS Modernization Program



*Increasing System Capabilities* ♦ *Increasing User Benefit*

## **Block IIA/IIR**

### Basic GPS

- Standard Service
  - Single frequency (L1)
  - Coarse acquisition (C/A) code navigation
- Precise Service
  - Y-Code (L1Y & L2Y)
  - Y-Code navigation

## **Block IIR-M, IIF**

### IIR-M: IIA/IIR capabilities plus

- 2nd civil signal (L2C)
- M-Code (L1M & L2M)

### IIF: IIR-M capability plus

- 3rd civil signal (L5)
- 2 Rb + 1 Cs Clocks
- 12 year design life

## **Block III**

- Backward compatibility
- 4th civil signal (L1C)
- 4x better User Range Error than IIF
- Increased availability
- Increased integrity
- 15 year design life



# *Public Interface Specifications*

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- Next public Interface Control Working Group
  - 13-15 Sept 2011 in El Segundo, CA
- Current versions of the public GPS Signal-in-Space (SIS) and user support Interface Specifications:
  - IS-GPS-200 – L1 (P(Y) , C/A), L2 (P(Y), L2C)
  - IS-GPS-705 – L5
  - IS-GPS-800 – L1C
  - IS-GPS-870 – OCX Data Transfer
- These and other key IS/ICD documents available at:
  - <http://www.navcen.uscg.gov/index.php?pageName=gpsReferenceInfo/>
  - <http://www.gps.gov/technical/icwg/>



# *Summary*

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- GPS continues to meet or exceed our performance commitments to worldwide users
  - Performance is better than ever and will continue to improve with planned modernization
- Modernization of all segments is on track